



2023 Pesticide Drinking Water Standards and Information

Table of Contents

Pesticide Drinking Water Standards 2

This fact sheet contains information about drinking water standards for pesticides or degradates that the California Department of Pesticide Regulation’s (CDPR) Groundwater Protection Program actively samples for, has sampled for in the past, or that had reported detections in CDPR’s most recent Annual Well Sampling Report.

Pesticide Information 11

This fact sheet contains chemical information, analytical methods, and major uses for pesticides or degradates that the California Department of Pesticide Regulation’s (CDPR) Groundwater Protection Program actively samples for, has sampled for in the past, or that had reported detections in CDPR’s most recent Annual Well Sampling Report.

PESTICIDE DRINKING WATER STANDARDS

Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023



This fact sheet contains information about drinking water standards for pesticides or degradates that the California Department of Pesticide Regulation's (CDPR) Groundwater Protection Program actively samples for, has sampled for in the past, or that had reported detections in CDPR's most recent Annual Well Sampling Report. Each of the columns in the fact sheet table is described below. Agencies referenced in this fact sheet are the California State Water Resources Control Board (SWRCB), California Office of Environmental Health Hazard Assessment (OEHHA), United States Environmental Protection Agency (USEPA), the United States Geological Survey (USGS), and CDPR. All values are reported in units of parts per billion (ppb), or about one drop of water in a swimming pool. Values that are not established are denoted as “—”. Data sources are noted by superscripts.

Pesticide: The name of the pesticide or degradate.

MCL [ppb] SWRCB¹: The Maximum Contaminant Level (MCL) is an enforceable, health protective drinking water level adopted by the state of California which considers not only a chemicals' health risks but also factors such as their detectability and treatability, as well as costs of treatment.

PHG [ppb] OEHHA¹: Public Health Goals (PHGs), established by the state of California, are concentrations of drinking water contaminants that pose no significant health risk if consumed for a lifetime, based on current risk assessment principles, practices, and methods.

PHC [ppb] OEHHA²: Public Health Concentrations (PHCs), determined by the state of California, are concentrations of a chemical in drinking water that are not expected to pose a significant risk to health when consumed over a lifetime, and are developed using approaches and methods of OEHHA's Public Health Goal Program. If differentiated, CE refers to a PHC derived for cancer effects and NCE refers to a PHC derived for non-cancer effects.

HHRL [ppb] CDPR³: The Human Health Reference Levels (HHRLs) are identified by CDPR's Human Health Assessment Branch. For some pesticides and degradates HHA calculated acute and chronic HHRLs. This table includes the lowest HHRL of the two values. Residues measured in groundwater exceeding these reference levels indicate a health concern and should be sent to HHA for further evaluation.

MCL [ppb] USEPA^{1, 4}: The Maximum Contaminant Level (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are federally enforceable standards.

MCLG [ppb] USEPA^{1, 5}: The Maximum Contaminant Level Goal (MCLG) is a non-enforceable, federal health benchmark goal that is set at a level at which no known or anticipated adverse effect on the health of persons is expected to occur and which allows an adequate margin of safety.

Chronic or Lifetime HHBP [ppb] USEPA⁶: USEPA Chronic or Lifetime Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values in drinking water protective of chronic non-carcinogenic effects over a lifetime of exposure, assuming that 20% of the exposure to a given pesticide is from water and additional exposure is derived from another source such as food, air, or dermal contact.

PESTICIDE DRINKING WATER STANDARDS

Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023



Acute or One-Day HHBP [ppb] USEPA⁶: USEPA Acute or One-day Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values in drinking water protective of acute or up to one-day non-carcinogenic effects, assuming that the entire exposure to a given pesticide is from drinking water.

Carcinogenic HHBP (E-6 to E-4) [ppb] USEPA⁶: USEPA Carcinogenic Human Health Benchmarks for Pesticides (HHBPs) are non-enforceable advisory values protective of cancer effects. The HHBP range represents a one-in-one million (10^{-6}) to one-in-ten thousand (10^{-4}) cancer risk range.

One-Day HA [ppb] USEPA⁵: The One-Day Health Advisory (HA) is the concentration of a chemical in drinking water that is not expected to cause any adverse non-carcinogenic effects for up to one day of exposure (for a 10-kg child consuming 1 L of water/day).

Ten-Day HA [ppb] USEPA⁵: The Ten-Day Health Advisory (HA) concentration of a chemical in drinking water that is not expected to cause any adverse non-carcinogenic effects for up to ten days of exposure (for a 10-kg child consuming 1 L of water/day).

DWEL HA [ppb] USEPA⁵: A Drinking Water Equivalent Level (DWEL) is a lifetime exposure level, assuming 100% exposure from drinking water, at or below which adverse, non-carcinogenic health effects would not be expected to occur.

Lifetime HA [ppb] USEPA⁵: The Lifetime Health Advisory (HA) is the concentration in drinking water at or below which no adverse non-carcinogenic effects are expected for a lifetime of exposure (for a 70-kg adult drinking 2 L of water/day). The lifetime HA incorporates a drinking water risk concentration factor or a default of 20% of total exposure from all sources.

10^{-4} Cancer Risk [ppb] USEPA⁵: The concentration of a chemical in drinking water corresponding to an excess estimated lifetime cancer risk of 1 in 10,000.

Cancer Descriptor USEPA⁵: Chemicals evaluated under the USEPA 2005 Cancer Guidelines or the 1996 or 1999 drafts are denoted by their “Cancer Classification.” If the USEPA has not completed a new assessment for the chemical, the chemicals are denoted by the “Cancer Group.”

Cancer Classification: A descriptive weight-of-evidence judgment as to the likelihood that an agent is a human carcinogen and the conditions under which the carcinogenic effects may be expressed. Under the 2005 EPA Guidelines for Carcinogen Risk Assessment, Cancer Descriptors replace the earlier alpha numeric Cancer Group designations (US EPA 1986 guidelines). The Cancer Descriptors in the 2005 EPA Guidelines for Carcinogen Risk Assessment are as follows:

H - carcinogenic to humans

L - likely to be carcinogenic to humans

L/N - likely to be carcinogenic above a specified dose but not likely to be carcinogenic below that dose because a key event in tumor formation does not occur below that dose

S – suggestive evidence of carcinogenic potential

I – inadequate information to assess carcinogenic potential

N – not likely to be carcinogenic to humans

PESTICIDE DRINKING WATER STANDARDS

Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023



Cancer Group: A qualitative weight-of-evidence judgment as to the likelihood that a chemical may be a carcinogen for humans. Each chemical was placed into one of the following five categories (US EPA 1986 guidelines):

- A - Human carcinogen
- B - Probable human carcinogen:
 - B1 - Indicates limited human evidence
 - B2 - Indicates sufficient evidence in animals and inadequate or no evidence in humans
- C - Possible human carcinogen
- D - Not classifiable as to human carcinogenicity
- E - Evidence of noncarcinogenicity for humans

Non-Cancer HBSL [ppb] USGS⁴: USGS Non-cancer Health-Based Screening Levels (HBSLs) are non-enforceable benchmarks of concentration protective of chronic non-cancer effects.

Cancer HBSL (E-6 to E-4) [ppb] USGS⁴: USGS Cancer Health-Based Screening Levels (HBSLs) are non-enforceable benchmarks protective of cancer effects. The HBSL concentration range represents a one-in-one million (10^{-6}) to one-in-ten thousand (10^{-4}) cancer risk range.

Data Sources:

¹<https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/mclreview/mcls_dlrs_phgs.pdf>

²<<https://oehha.ca.gov/pesticides/pesticides-reports-notice-and-documents>>

³<https://www.cdpr.ca.gov/docs/whs/active_ingredient/index.htm>

⁴<<https://water.usgs.gov/water-resources/hbsl/>>

⁵<<https://www.epa.gov/system/files/documents/2022-01/dwtable2018.pdf>> <<https://www.epa.gov/sdwa/drinking-water-health-advisories-has>>

⁶<<https://www.epa.gov/sdwa/human-health-benchmarks>>

PESTICIDE DRINKING WATER STANDARDS



Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023

Pesticide or Degradate	MCL [ppb] SWRCB	PHG [ppb] OEHHA	PHC [ppb] OEHHA	HHRL [ppb] CDPH	MCL [ppb] USEPA	MCLG [ppb] USEPA	Chronic (Lifetime) HHBP [ppb] USEPA	Acute (One-Day) HHBP [ppb] USEPA	Carcinogenic HHBP (E-6 to E-4) [ppb] USEPA	One-Day HA [ppb] USEPA	Ten-Day HA [ppb] USEPA	DWEL HA [ppb] USEPA	Lifetime HA [ppb] USEPA	10 ⁻⁴ Cancer Risk [ppb] USEPA	Cancer Group USEPA	Non-Cancer HBSL [ppb] USGS	Cancer HBSL (E-6 to E-4) [ppb] USGS
1-naphthol	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1,2-dichloropropane	5	0.5	—	—	5	0	—	—	—	—	90	—	—	60	B2	—	—
1,4-dichlorobenzene	5	6	—	—	75	75	—	—	—	11000	11000	4000	75	—	C	—	—
2,4-D	70	20	—	—	70	70	—	—	—	1000	300	200	—	—	D	—	—
2,4,5-T	50	—	—	—	—	—	—	—	—	—	—	—	—	—	D	60	—
3,4-dichloroaniline	—	—	—	100 ⁵	—	—	—	—	—	—	—	—	—	—	—	—	—
3,5-dichloroaniline	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5-50
abamectin	—	—	—	—	—	—	15	17	—	—	—	—	—	—	—	—	—
ACET	—	—	—	17*	—	—	—	—	—	—	—	—	—	—	—	—	—
acetamiprid	—	—	—	—	—	—	420	700	—	—	—	—	—	—	—	—	—
acetochlor	—	—	—	—	—	—	100	—	—	—	—	—	—	—	—	—	—
AIBA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
alachlor	2	4	—	—	2	0	—	—	—	100	100	400	—	40	B2	—	—
aminopyralid	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
AMPA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
atrazine	1	0.15	—	17*	3	3	—	—	—	—	—	700	—	—	N	—	—
azinphos-methyl	—	—	—	—	—	—	8.9	20	—	—	—	—	—	—	—	—	—
azoxystrobin	—	—	—	—	—	—	1070	4500	—	—	—	—	—	—	—	—	—
benfluralin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
bensulfuron methyl	—	—	—	—	—	—	1000	—	—	—	—	—	—	—	—	—	—
bensulide	—	—	—	—	—	—	30	1000	—	—	—	—	—	—	—	—	—
bentazon	18	200	—	—	—	—	890	3000	—	300	300	1000	200	—	E	1000	—
bispyribac-sodium	—	—	—	—	—	—	600	—	—	—	—	—	—	—	—	—	—
boscalid	—	—	—	—	—	—	1300	—	—	—	—	—	—	—	—	—	—
bromacil	—	—	—	197	—	—	—	—	—	5000	5000	3500	70	—	I	100	—
carbaryl	—	—	—	—	—	—	—	—	—	1000	1000	400	—	4000	L	—	40-4000
carbendazim	—	—	—	—	—	—	830	930	12.4-1240	—	—	—	—	—	—	—	—
carbofuran	18	0.7	—	—	40	40	—	—	—	—	—	—	—	—	N	—	—
carbon disulfide	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	600	—
chlorantranilprole	—	—	—	8316	—	—	9350	—	—	—	—	—	—	—	—	—	—

PESTICIDE DRINKING WATER STANDARDS



Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023

Pesticide or Degradate	MCL [ppb] SWRCB	PHG [ppb] OEHHA	PHC [ppb] OEHHA	HHRL [ppb] CDPR	MCL [ppb] USEPA	MCLG [ppb] USEPA	Chronic (Lifetime) HHBP [ppb] USEPA	Acute (One-Day) HHBP [ppb] USEPA	Carcinogenic HHBP (E-6 to E-4) [ppb] USEPA	One-Day HA [ppb] USEPA	Ten-Day HA [ppb] USEPA	DWEL HA [ppb] USEPA	Lifetime HA [ppb] USEPA	10 ⁻⁴ Cancer Risk [ppb] USEPA	Cancer Group USEPA	Non-Cancer HBSL [ppb] USGS	Cancer HBSL (E-6 to E-4) [ppb] USGS
chlorfenapyr	—	—	—	—	—	—	300	300	—	—	—	—	—	—	—	—	—
chlorothalonil	—	—	—	—	—	—	—	—	—	200	200	500	—	150	B2	100	—
chloropicrin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
chlorpyrifos	—	—	—	—	—	—	1.9	2.2	—	30	30	10	2	—	D	2	—
chlorsulfuron	—	—	—	—	—	—	300	—	—	—	—	—	—	—	—	—	—
clomazone	—	—	—	—	—	—	5000	30000	—	—	—	—	—	—	—	—	—
clothianidin	—	—	—	—	—	—	580	1700	—	—	—	—	—	—	—	—	—
cyanazine	—	—	—	—	—	—	—	—	—	100	100	—	70	—	—	10	0.03-3
cyantraniliprole	—	—	—	—	—	—	60	—	—	—	—	—	—	—	—	—	—
cycloate	—	—	—	—	—	—	30	440	—	—	—	—	—	—	—	—	—
cyprodinil	—	—	—	—	—	—	170	10000	—	—	—	—	—	—	—	—	—
DACT	—	—	—	17*	—	—	11	300	—	—	—	—	—	—	—	—	—
DBCP	0.2	0.003	—	—	0.2	0	—	—	—	200	50	—	—	3	B2	—	—
DCPA	—	—	2 (CE) 7 (NCE)	‡	—	—	—	—	—	2000	2000	350	70	—	C	60	20-2000
DDVP	—	—	—	—	—	—	3	50	—	—	—	—	—	—	—	—	—
DEA	—	—	—	17*	—	—	—	—	—	—	—	—	—	—	—	—	—
desulfinyl fipronil	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
desulfinyl fipronil amide	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
diazinon	—	—	—	—	—	—	—	—	—	20	20	7	1	—	E	2	—
dicamba	—	—	—	—	—	—	—	—	—	—	—	18000	4000	—	N	300	—
dichlobenil	—	—	—	—	—	—	60	13000	—	—	—	—	—	—	—	—	—
dichloran	—	—	—	—	—	—	15	1000	—	—	—	—	—	—	—	—	—
dichlorprop	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
diflubenzuron	—	—	—	—	—	—	100	—	—	—	—	—	—	—	—	—	—
dimethenamid	—	—	—	—	—	—	300	10000	—	—	—	—	—	—	—	—	—
dimethoate	—	—	—	—	—	—	13	87	—	—	—	—	—	—	—	—	—
dinotefuran	—	—	—	—	—	—	6000	8330	—	—	—	—	—	—	—	—	—
disulfoton	—	—	—	—	—	—	—	—	—	10	10	3.5	0.7	—	E	0.8	—
dithiopyr	—	—	—	—	—	—	21	—	—	—	—	—	—	—	—	—	—

PESTICIDE DRINKING WATER STANDARDS



Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023

Pesticide or Degradate	MCL [ppb] SWRCB	PHG [ppb] OEHHA	PHC [ppb] OEHHA	HHRL [ppb] CDPR	MCL [ppb] USEPA	MCLG [ppb] USEPA	Chronic (Lifetime) HHBP [ppb] USEPA	Acute (One-Day) HHBP [ppb] USEPA	Carcinogenic HHBP (E-6 to E-4) [ppb] USEPA	One-Day HA [ppb] USEPA	Ten-Day HA [ppb] USEPA	DWEL HA [ppb] USEPA	Lifetime HA [ppb] USEPA	10 ⁻⁴ Cancer Risk [ppb] USEPA	Cancer Group USEPA	Non-Cancer HBSL [ppb] USGS	Cancer HBSL (E-6 to E-4) [ppb] USGS
diuron	—	—	—	100 ⁵	—	—	—	—	—	1000	1000	100	—	200	L	20	2-200
diquat dibromide	20	94	—	—	20	20	30	5000	—	—	—	20	—	—	E	—	—
DSMN	—	—	—	150 ¹	—	—	—	—	—	—	—	—	—	—	—	—	—
EPTC	—	—	—	—	—	—	300	1000	—	—	—	—	—	—	—	—	—
ethalfuralin	—	—	—	—	—	—	200	21000	0.33-33	—	—	—	—	—	—	—	—
ethofumesate	—	—	—	—	—	—	2000	8000	—	—	—	—	—	—	—	—	—
ethoprophos	—	—	—	—	—	—	0.37	2.8	1.05-105	—	—	—	—	—	—	—	—
ethyl parathion	—	—	—	—	—	—	0.2	2	—	—	—	—	—	—	—	—	—
ethylene dibromide	0.05	0.01	—	—	0.05	0	—	—	—	8	8	300	—	2	L	—	—
ethylene dichloride	0.5	0.4	—	—	5	0	—	—	—	700	700	—	—	40	B2	—	—
etofenprox	—	—	—	—	—	—	151	—	—	—	—	—	—	—	—	—	—
fenamidone	—	—	—	—	—	—	167	8330	—	—	—	—	—	—	—	—	—
fenamiphos	—	—	—	—	—	—	—	—	—	9	9	3.5	0.7	—	E	0.6	—
fenhexamid	—	—	—	—	—	—	1000	—	—	—	—	—	—	—	—	—	—
fipronil	—	—	—	—	—	—	1	170	—	—	—	—	—	—	—	—	—
fipronil amide	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
fipronil sulfide	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
fipronil sulfone	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
fluazifop-p-butyl	—	—	—	—	—	—	3000	30	—	—	—	—	—	—	—	—	—
fludioxonil	—	—	—	331	—	—	2000	—	—	—	—	—	—	—	—	—	—
flupyradifurone	—	—	—	—	—	—	460	2300	—	—	—	—	—	—	—	—	—
flutriafol	—	—	—	395	—	—	300	2100	—	—	—	—	—	—	—	—	—
fomesafen	—	—	—	—	—	—	60	7000	—	—	—	—	—	—	—	—	—
fonofos	—	—	—	—	—	—	—	—	—	20	20	70	10	—	D	10	—
formaldehyde	—	—	—	—	—	—	—	—	—	10000	5000	7000	1000	—	B1	—	—
glufosinate	—	—	—	—	—	—	40	1800	—	—	—	—	—	—	—	40	—
glyphosate	700	900	—	—	700	700	—	—	—	20000	20000	70000	—	—	D	—	—
halosulfuron-methyl	—	—	—	—	—	—	600	10000	—	—	—	—	—	—	—	—	—
hexazinone	—	—	—	—	—	—	—	—	—	3000	2000	2000	400	—	D	300	—
imidacloprid	—	—	—	283	—	—	500	500	—	—	—	—	—	—	—	—	—

PESTICIDE DRINKING WATER STANDARDS



Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023

Pesticide or Degradate	MCL [ppb] SWRCB	PHG [ppb] OEHHA	PHC [ppb] OEHHA	HHRL [ppb] CDPR	MCL [ppb] USEPA	MCLG [ppb] USEPA	Chronic (Lifetime) HHBP [ppb] USEPA	Acute (One-Day) HHBP [ppb] USEPA	Carcinogenic HHBP (E-6 to E-4) [ppb] USEPA	One-Day HA [ppb] USEPA	Ten-Day HA [ppb] USEPA	DWEL HA [ppb] USEPA	Lifetime HA [ppb] USEPA	10 ⁻⁴ Cancer Risk [ppb] USEPA	Cancer Group USEPA	Non-Cancer HBSL [ppb] USGS	Cancer HBSL (E-6 to E-4) [ppb] USGS
imidacloprid olefin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
imidacloprid urea	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
imidacloprid guanidine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
imidacloprid olfenic guanidine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
indoxacarb	—	—	—	—	—	—	100	800	—	—	—	—	—	—	—	—	—
isoxaben	—	—	—	—	—	—	300	—	—	—	—	—	—	—	—	—	—
kresoxim-methyl	—	—	—	—	—	—	2100	—	10-1000	—	—	—	—	—	—	—	—
linuron	—	—	—	—	—	—	46	1000	—	—	—	—	—	—	—	—	—
malathion	—	—	—	—	—	—	—	—	—	200	200	2000	500	—	S	60	—
MCPA	—	—	—	—	—	—	—	—	—	100	100	140	30	—	N	30	—
MCPP	—	—	—	—	—	—	200	11700	—	—	—	—	—	—	—	—	—
mefenoxam/metalaxyl	—	—	—	—	—	—	—	3000	—	—	—	—	—	—	—	—	—
mesotrione	—	—	—	—	—	—	—	4200	—	—	—	—	—	—	—	—	—
methidathion	—	—	—	—	—	—	8.9	10	—	—	—	—	—	—	—	—	—
methiocarb	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
methomyl	—	—	—	—	—	—	—	—	—	300	300	900	200	—	E	50	—
methoxychlor	30	10	—	—	40	40	—	—	—	50	50	200	40	—	D	—	—
methoxyfenozide	—	—	—	504	—	—	600	—	—	—	—	—	—	—	—	—	—
methyl parathion	—	—	—	—	—	—	—	—	—	300	300	7	1	—	N	—	—
metolachlor	—	—	7	—	—	—	—	—	—	2000	2000	3500	700	—	C	600	—
metolachlor ESA	—	—	1300	—	—	—	—	—	—	—	—	—	—	—	—	—	—
metolachlor OXA	—	—	3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—
metribuzin	—	—	—	—	—	—	—	—	—	5000	5000	350	70	—	D	8	—
metribuzin DA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
metribuzin DADK	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
metribuzin DK	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
metsulfuron methyl	—	—	—	—	—	—	1500	—	—	—	—	—	—	—	—	—	—
molinate	20	1	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	—
MTP	—	—	2500	‡	—	—	—	—	—	—	—	—	—	—	—	—	—
myclobutanil	—	—	—	—	—	—	20000	150	—	—	—	—	—	—	—	—	—

PESTICIDE DRINKING WATER STANDARDS



Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023

Pesticide or Degradate	MCL [ppb] SWRCB	PHG [ppb] OEHHA	PHC [ppb] OEHHA	HHRL [ppb] CDPR	MCL [ppb] USEPA	MCLG [ppb] USEPA	Chronic (Lifetime) HHBP [ppb] USEPA	Acute (One-Day) HHBP [ppb] USEPA	Carcinogenic HHBP (E-6 to E-4) [ppb] USEPA	One-Day HA [ppb] USEPA	Ten-Day HA [ppb] USEPA	DWEL HA [ppb] USEPA	Lifetime HA [ppb] USEPA	10 ⁻⁴ Cancer Risk [ppb] USEPA	Cancer Group USEPA	Non-Cancer HBSL [ppb] USGS	Cancer HBSL (E-6 to E-4) [ppb] USGS
napropamide	—	—	—	—	—	—	710	—	—	—	—	—	—	—	—	—	—
norflurazon	—	—	—	150 [†]	—	—	8.9	—	—	—	—	—	—	—	—	—	—
ortho-dichlorobenzene	600	600	—	—	600	600	—	—	—	9000	9000	3000	600	—	D	—	—
orthosulfamuron	—	—	—	—	—	—	300	—	—	—	—	—	—	—	—	—	—
oryzalin	—	—	—	—	—	—	1100	7100	3.80-380	—	—	—	—	—	—	—	—
oxadiazon	—	—	—	—	—	—	30	3400	—	—	—	—	—	—	—	—	—
oxyfluorfen	—	—	—	—	—	—	200	—	0.404-40.4	—	—	—	—	—	—	—	—
pendamethalin	—	—	—	—	—	—	2000	7000	—	—	—	—	—	—	—	—	—
penoxsulam	—	—	—	502	—	—	870	—	—	—	—	—	—	—	—	—	—
phorate	—	—	—	—	—	—	1	5.5	—	—	—	—	—	—	—	—	—
piperonyl butoxide	—	—	—	—	—	—	950	30000	—	—	—	—	—	—	—	—	—
prodiamine	—	—	—	—	—	—	830	—	—	—	—	—	—	—	—	—	—
prometon	—	—	—	—	—	—	—	—	—	200	200	2000	400	—	N	300	—
prometryn	—	—	—	—	—	—	200	—	—	—	—	—	—	—	—	—	—
propanil	—	—	—	—	—	—	200	—	—	—	—	—	—	—	—	—	—
propargite	—	—	—	—	—	—	200	—	0.154-15.4	—	—	—	—	—	—	—	—
propiconazole	—	—	—	—	—	—	600	2000	—	—	—	—	—	—	—	—	—
propyzamide	—	—	—	—	—	—	77	300	—	—	—	—	—	—	—	—	—
pyraclostrobin	—	—	—	—	—	—	200	1000	—	—	—	—	—	—	—	—	—
pyriproxyfen	—	—	—	—	—	—	2100	—	—	—	—	—	—	—	—	—	—
quinoxifen	—	—	—	—	—	—	1000	—	—	—	—	—	—	—	—	—	—
simazine	4	4	—	17*	4	4	—	—	—	—	—	700	—	—	N	—	—
sulfentrazone	—	—	—	—	—	—	830	4000	—	—	—	—	—	—	—	—	—
sulfentrazone-3-carboxylic acid	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
sulfoxaflor	—	—	—	—	—	—	300	1700	—	—	—	—	—	—	—	—	—
tebuconazole	—	—	—	—	—	—	170	190	—	—	—	—	—	—	—	—	—
tebufenozide	—	—	—	—	—	—	100	—	—	—	—	—	—	—	—	—	—
tebuthiuron	—	—	—	—	—	—	—	—	—	3000	3000	2000	500	—	D	900	—
tefluthrin	—	—	—	—	—	—	—	30	—	—	—	—	—	—	—	—	—
tetraconazole	—	—	—	—	—	—	43	3000	—	—	—	—	—	—	—	—	—

PESTICIDE DRINKING WATER STANDARDS



Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023

Pesticide or Degradate	MCL [ppb] SWRCB	PHG [ppb] OEHHA	PHC [ppb] OEHHA	HHRL [ppb] CDPR	MCL [ppb] USEPA	MCLG [ppb] USEPA	Chronic (Lifetime) HHBP [ppb] USEPA	Acute (One-Day) HHBP [ppb] USEPA	Carcinogenic HHBP (E-6 to E-4) [ppb] USEPA	One-Day HA [ppb] USEPA	Ten-Day HA [ppb] USEPA	DWEL HA [ppb] USEPA	Lifetime HA [ppb] USEPA	10 ⁻⁴ Cancer Risk [ppb] USEPA	Cancer Group USEPA	Non-Cancer HBSL [ppb] USGS	Cancer HBSL (E-6 to E-4) [ppb] USGS
thiabendazole	—	—	—	—	—	—	600	3000	—	—	—	—	—	—	—	—	—
thiacloprid	—	—	—	—	—	—	20	70	0.729-72.9	—	—	—	—	—	—	—	—
thiamethoxam	—	—	—	—	—	—	71	2300	—	—	—	—	—	—	—	—	—
thiobencarb	70	42	—	—	—	—	60	7000	—	—	—	—	—	—	—	—	—
TPA	—	—	2500	70 [‡]	—	—	17500	—	—	—	125000	—	—	—	—	—	—
triallate	—	—	—	—	—	—	150	4000	0.413-41.3	—	—	—	—	—	—	—	—
tribufos	—	—	—	—	—	—	1	7	—	—	—	—	—	—	—	—	—
triclopyr	—	—	—	—	—	—	300	1000	—	—	—	—	—	—	—	—	—
trifloxystrobin	—	—	—	—	—	—	220	71000	—	—	—	—	—	—	—	—	—
triflumizole	—	—	—	—	—	—	69.2	1700	—	—	—	—	—	—	—	—	—
trifluralin	—	—	—	—	—	—	—	—	—	80	80	700	20	400	C	200	10-1000
uniclazole	—	—	—	—	—	—	100	1000	—	—	—	—	—	—	—	—	—

[§] If residues of diuron and 3,4-dichloroaniline are detected in the same groundwater sample, the values should be summed and compared to the HHRL.

* If two or more residues of atrazine, simazine, ACET, DACT, or DEA are detected in the same groundwater sample, the values should be summed and compared to the HHRL.

[¶] If residues of norflurazon and DSMN are detected in the same groundwater sample, the values should be summed and compared to the HHRL.

[‡] The HHRL for TPA was determined under a special/non-standard process and is related to health reference levels determined by USEPA for DCPA and degradates (TPA, MTP):

<https://www.cdpr.ca.gov/docs/hha/memos/tpa%20in%20ground%20water%20reply%20final%2002232017%20complete%20executed.pdf>

<https://www.epa.gov/ccl/regulatory-determination-2-support-documents-dacthal-mono-acid-mtp-and-di-acid-tpa-degradates>

PESTICIDE INFORMATION

Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023



This fact sheet contains chemical information, analytical methods, and major uses for pesticides or degradates that the California Department of Pesticide Regulation's (CDPR) Groundwater Protection Program actively samples for, has sampled for in the past, or that had reported detections in CDPR's most recent Annual Well Sampling Report. Each of the columns in the fact sheet table are described below. Data sources are noted by superscripts.

Pesticide: The name of the pesticide or degradate.

Synonyms: Alternative names, abbreviations, or chemical formulas for the listed pesticide or degradate.

Type: Pesticides can be grouped by the type of pests affected. Herbicides are effective against plants. Insecticides are effective against insects. Fungicides are effective against fungi. Nematicides are effective against nematode worms. Degradates and their parents are noted in this column, if applicable.

CDPR Chemical Code^{1, 2}: The identification number assigned by CDPR. There may be multiple identification numbers for each pesticide or degradate. The chemical codes can be used to look up pesticide data and product information.

CDPR Analytical Method³: The analytical method number assigned by the CDPR that is used to analyze for the pesticide or degradate. A designation of (GW) means the analytical method was developed for groundwater samples. A designation of (SW) means the analytical method was developed for surface water samples. Surface water methods can be used for groundwater.

Primary Uses^{4, 5}: The primary uses of each pesticide in California. Degradates are not associated with use and are thus assigned "NA" for primary use. These data were obtained from the Pesticide Use Reporting (PUR) database and from the PAN Pesticide Database.

Data Sources:

¹<<https://apps.cdpr.ca.gov/ereglib/>>

²<<https://apps.cdpr.ca.gov/docs/label/labelque.cfm>>

³<https://www.cdpr.ca.gov/docs/emon/pubs/em_methd_main.htm>

⁴<<https://www.cdpr.ca.gov/docs/pur/purmain.htm>>

⁵<www.pesticideinfo.org>

PESTICIDE INFORMATION



Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023

Pesticide or Degradate	Synonyms	Pesticide Type	CDPR Chemical Code	CDPR Analytical Method	Primary Uses
1-naphthol	1-N	degradate of carbaryl and naphthalene	6374	NA	NA
1,2-dichloropropane	propylene dichloride	insecticide	2501, 185	NA	not registered for use in California since 1990
1,4-dichlorobenzene	1,4-DCB p-DCB p-dichlorobenzene para-dichlorobenzene	insecticide, control of mildew and mold	455	NA	mothballs, insect repellents, disinfectants
2,4-D	2,4-dichlorophenoxyacetic acid	herbicide, plant growth regulator	636	EMON-SM-05-012 (SW)	almonds, pistachios, rights of way, uncultivated ag
2,4,5-T	2,4,5-trichlorophenoxyacetic acid 2,4,5-T 2,4,5-TCP	herbicide	639	EMON-SM-05-044	NA
3,4-dichloroaniline	3,4-DCA 3,4-dichlorobenzeneamine	degradate of diuron, linuron, propanil, or iprodione	3138	EMON-SM-05-049 (SW) EMON-SM-05-032 (GW)	NA
3,5-dichloroaniline	3,5-dichlorobenzeneamine	degradate of iprodione or dichloran	6068, 3139	EMON-SM-05-032 (GW)	NA
abamectin	avermectin abamectin B1A and B1B	insecticide	2254, 5916, 5917	EMON-SM-05-049 (SW)	almonds, walnuts, wine grapes, cotton, oranges
ACET	deisopropyl atrazine DIA deethyl-simazine 2-chloro-6-ethylamino-4-amino-s-triazine	degradate of atrazine and simazine	4096	EM 62.9 (GW & SW)	NA
acetamiprid		insecticide	5762	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	cotton, walnuts, pistachios, oranges, strawberries, almonds, wine grapes
acetochlor		herbicide	2349	EMON-SM-05-050 (GW)	NA
AIBA	2-amino-N-isopropyl benzamide 2-amino-n-isopropylbenzamide	degradate of bentazon		EM-SM-05-032 (GW)	NA
alachlor		herbicide	678	EMON-SM-05-032 (GW)	corn
aminopyralid	pyridine carboxylic acid 4-amino-3,6-dichloro-2-pyridinecarboxylic acid 4-amino-3,6,-dichloropyridine-2-carboxylic acid	herbicide	5927	EM-SM-05-053 (GW)	wheat, corn, pasture, rangeland, forests, rights of way, industrial areas
AMPA	aminomethylphosphonic acid	degradate of glyphosate	6049	EMON-SM-05-045 (GW)	NA
atrazine		herbicide	45	EM 62.9 (GW & SW) EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	corn, sudangrass, corn, sugarcane, forests, sorghum

PESTICIDE INFORMATION

Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023



Pesticide or Degradate	Synonyms	Pesticide Type	CDPR Chemical Code	CDPR Analytical Method	Primary Uses
azinphos-methyl		insecticide	314	EMON-SM-05-032 (GW) EMON-SM-05-050 (GW)	tree crops (stone, pome, nut)
azoxystrobin		fungicide	4037	EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW) EM-SM-05-018 (GW)	almonds, rice, tomatoes, garlic, walnuts, wine grapes
benfluralin	n-butyl-2,6-dinitro-n-ethyl-4-(trifluoromethyl)aniline n-butyl-n-ethyl-2,6-dinitro-4-(trifluoromethyl) benzeneamine n-butyl-n-ethyl-a,a,a-trifluoro-2,6-dinitro-p-toluidine n-butyl-n-ethyl-alpha, alpha, alpha-trifluoro-2,6-dinitro-p-toluidine	herbicide	53	EM-SM-05-032 (GW)	turf, alfalfa, lettuce, birdsfoot trefoil, clover, non-bearing fruit trees, nut trees, non-bearing berries, non-bearing vineyards, ornamentals, rights of way, fence rows/hedgerows, Christmas tree plantations
bensulfuron methyl		herbicide	2263	EMON-SM-05-044 (GW)	rice, wild rice
bensulide		herbicide	70	EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	lettuce, broccoli, onions, arugula, cantaloupe, cauliflower
bentazon	bentazone	herbicide	1944, 2999	EM 5.5 (GW) EMON-SM-05-032 (GW) EMON-SM-05-050 (GW)	peas, beans, mint
bispyribac-sodium		herbicide	5749	EMON-SM-05-044 (GW)	rice, wild rice, uncultivated ag, turf, landscape
boscalid		fungicide	5790	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	wine grapes, table and raisin grapes, almonds, leaf lettuce, head lettuce, walnuts, strawberries
bromacil		herbicide	83	EM 62.9 (GW & SW) EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	rights of way, citrus, landscape
carbaryl		insecticide, nematicide, plant growth regulator	105	EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	tomatoes, citrus, brussels sprouts, pistachios
carbendazim		degradate, fungicide	2176	EMON-SM-05-050 (GW)	NA
carbofuran		insecticide, nematicide	106	EMON-SM-05-032 (GW) EMON-SM-05-050 (GW)	alfalfa, rice, grapes, cotton
carbon disulfide	carbon bisulfide	fumigant, nematicide	108	NA	not registered for use in California since 1987

PESTICIDE INFORMATION



Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023

Pesticide or Degradate	Synonyms	Pesticide Type	CDPR Chemical Code	CDPR Analytical Method	Primary Uses
chlorantraniliprole		insecticide	5964	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW) EMON-SM-05-032 (GW)	almonds, pistachios, landscape, walnuts, tomatoes, alfalfa, peaches
chlorfenapyr	4-Bromo-2-(4-chlorophenyl)-1-(ethoxymethyl)-5-(trifluoromethyl)-1H-pyrrole-3-carbonitrile	insecticide, miticide	3938	EMON-SM-05-054 (SW)	ornamental crops in greenhouses
chlorothalonil	tetrachloroisophthalonitrile	fungicide	677	EM-SM-05-020 (GW, SW)	almonds, tomatoes, landscape, onions, prunes, celery
chloropicrin		fungicide, herbicide, insecticide, nematicide, antimicrobial	136	NA	strawberries, soil preplant, almonds, raspberries, outdoor propagation, walnuts, outdoor container nursery
chlorpyrifos	chlorpyrifos-ethyl	insecticide, nematicide	253	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	almonds, cotton, oranges, table and raisin grapes, wine grapes walnuts, alfalfa
chlorsulfuron	chlorsulfon	herbicide	2143	EMON-SM-05-049 (SW)	rights of way, landscape, rangeland, regulatory, oats, uncultivated non-ag, triticale
clomazone	dimethazone	herbicide	3537	EMON-SM-05-032 (GW) EMON-SM-05-044 (GW) EMON-SM-05-050 (GW)	rice, wild rice, uncultivated non-ag
clothianidin	clothianidine (E)-clothianidin	insecticide	5792	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW) EMON-SM-62.9 (GW)	wine grapes, cotton, almonds, broccoli, table and raisin grapes, lettuce
cyanazine	cyanazin	herbicide	1640	EM 62.9 (GW & SW) EMON-SM-05-050 (GW)	greenhouse plants
cyantraniliprole		insecticide	6072	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	outdoor propagation nursery, almonds, oranges, tangerines, greenhouse propagation, leaf lettuce, broccoli
cycloate		herbicide	516	EMON-SM-05-050 (GW)	spinach, beets, commodity research, turnips, cilantro
cyprodinil		fungicide	4000	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW) EMON-SM-05-032 (GW)	almonds, grapes, strawberries, peaches, pistachios
DACT	diaminochlorotriazine diamino chlorotriazine	degradate of simazine	5028	EM 62.9 (GW & SW)	NA
DBCP	1,2-dibromo-3-chloropropane	fumigant, nematicide	183	NA	not registered for use in California since 1979
DCPA	dacthal	herbicide	179	EMON-SM-05-040 (GW)	broccoli, onions, brussels sprouts, cauliflower, cabbage, bok choy
DDVP	dichlorvos 2,2-dichloroethenyl dimethyl phosphate dichlorophos	insecticide	187	EMON-SM-05-049 (SW)	structural pest control, commodity fumigation, animal husbandry, buildings, other fumigation, regulatory, food processing

PESTICIDE INFORMATION



Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023

Pesticide or Degradate	Synonyms	Pesticide Type	CDPR Chemical Code	CDPR Analytical Method	Primary Uses
DEA	deethyl atrazine desethyl atrazine 2-chloro-4-isopropylamino-6-amino-s-triazine	degradate of atrazine	4051, 6048	EMON-SM-05-050 (GW) EM 62.9 (GW & SW)	NA
desulfinyl fipronil	fipronil desulfinyl	degradate of fipronil	6373	EMON-SM-05-013 (SW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	NA
desulfinyl fipronil amide	fipronil desulfinylamide	degradate of fipronil	6070	EMON-SM-05-013 (SW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	NA
diazinon		insecticide	198	EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	tomatoes, apples, onions, soil preplant, watermelons, peaches, pears
dicamba		herbicide	200, 780, 5007, 849, 5098, 1829, 6193, 5110, 5057, 1113	EMON-SM-05-012 (SW)	landscape, turf, rights of way, greenhouse flowers
dichlobenil	dichlorbenil	herbicide	112	EMON-SM-05-032 (GW)	rights of way, aquatic industrial, landscape, sewage, landscape, wine grapes, public health pest control
dichloran	2,6-dichloro-4-nitroaniline	fungicide	81	EMON-SM-05-032 (GW)	celery, lettuce, succulent beans, fennel, broccoli
dichlorprop		herbicide	2503	EMON-SM-05-050 (GW)	NA
diflubenzuron		insect growth regulator	1992	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	oranges, almonds, plums, tangerines, peaches, artichokes, nectarines
dimethenamid	dimethenamide dimethenamid-P	herbicide	5112	EMON-SM-05-032 (GW) EMON-SM-05-050 (GW)	landscape maintenance
dimethoate		insecticide	216	EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	alfalfa, tomatoes, cotton, safflower, dried beans, broccoli
dinotefuran		insecticide	5822	EMON-SM-05-049 (SW)	structural pest control, tomatoes for processing, cotton, cantaloupe, wine grapes, landscape, greenhouse plants
disulfoton		insecticide, nematicide	230	EMON-SM-05-032 (GW)	landscape
dithiopyr		herbicide	2308	EMON-SM-05-049 (SW)	landscape, rights of way, outdoor container nursery, greenhouse flowers, outdoor propagation/flower nursery

PESTICIDE INFORMATION

Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023



Pesticide or Degradate	Synonyms	Pesticide Type	CDPR Chemical Code	CDPR Analytical Method	Primary Uses
diuron		herbicide	231	EM 62.9 (GW & SW) EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	rights of way, alfalfa, oranges, wine grapes, cotton, landscape, tangerines, walnuts
diquat dibromide		desiccant, herbicide	229	NA	landscape, rights of way, potatoes, aquatic areas, alfalfa for forage, outdoor container nursery, uncultivated agricultural areas
DSMN	desmethylnorflurazon DMN	degradate of norflurazon	5890, 5997	EMON-SM-05-050 (GW) EM 62.9 (GW & SW)	NA
EPTC	S-ethyl dispropylthiocarbamate ethyl n,n-dipropyl thiocarbamate	herbicide	264	EMON-SM-05-032 (GW)	alfalfa, clover, birdsfoot trefoil, beans, potatoes, sunflowers
ethalfuralin		herbicide	2166	EMON-SM-05-054 (SW)	dry beans, dry peas, cucurbits, peanuts, soybeans, sunflowers
ethofumesate		herbicide	1900	EMON-SM-05-032 (GW) EMON-SM-05-050 (GW)	landscape, onions, ornamental turf, greenhouse flowers, table and raisin grapes, perennial ryegrass
ethoprophos	ethoprop phosethoprop	insecticide, nematicide	404	EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	sweet potatoes, outdoor flowers, cabbage, beans, structural pest control
ethylene dibromide		fumigant, nematicide	271	NA	Not registered for use in California since 1987
ethylene dichloride		fumigant, insecticide	274	NA	Not registered for use in California since 1987
ethyl parathion	parathion parathion ethyl	insecticide	459	EMON-SM-05-032 (GW)	structural pest control
etofenprox	ethofenprox ephofenprox	insecticide	2292	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	public health pest control, structural pest control, regulatory, buildings, rights of way
fenamidone		fungicide	5791	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	leaf lettuce, head lettuce, spinach, onions, broccoli, carrots, cabbage
fenamiphos		insecticide, nematicide	1857	EMON-SM-05-032 (GW) EMON-SM-05-050 (GW)	structural pest control
fenhexamid	fenhexamide N-(2,3-dichloro-4-hydroxyphenyl)-1-methylcyclohexanecarboxamide	fungicide	4032	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	wine grapes, table and raisin grapes, strawberries, cherries, blueberries, greenhouse flowers, greenhouse plants
fipronil		insecticide	3995	EMON-SM-05-013 (SW) EMON-SM-05-050 (GW)	structural pest control, regulatory, landscape, rights of way, other fumigation, public health pest control, greenhouse flowers, buildings
fipronil amide	fipronil carboxamide	degradate of fipronil	6040	EMON-SM-05-013 (SW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	NA

PESTICIDE INFORMATION

Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023



Pesticide or Degradate	Synonyms	Pesticide Type	CDPR Chemical Code	CDPR Analytical Method	Primary Uses
fipronil sulfide		degradate of fipronil	6037	EMON-SM-05-013 (SW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	NA
fipronil sulfone		degradate of fipronil	6038	EMON-SM-05-013 (SW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	NA
fluzafop-p-butyl		herbicide	5815	EMON-SM-05-050 (GW)	carrots, wine grapes, onions, rights of way, landscape, almonds
fludioxonil		fungicide	5027	EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	strawberries, grapes, lemons, leaf lettuce, oranges, landscape, pomegranates (including post-harvest treatment)
flupyradifurone		insecticide	6098	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	alfalfa for forage, leaf lettuce, cotton, head lettuce, strawberries, sorghum for forage, corn
flutriafol	flutrifol	fungicide	5971	EMON-SM-05-032 (GW)	wine grapes, table and raisin grapes, strawberries, tomatoes for processing, bell peppers, peaches, nectarines
fomesafen		herbicide	5086	EMON-SM-05-050 (GW)	NA
fonofos	dyfonate	insecticide	254	EMON-SM-05-032 (GW)	NA
formaldehyde		microbicide	295	NA	public health pest control; not registered for use in California since 2020
glufosinate		herbicide	3946	EMON-SM-05-045 (GW)	almonds, grapes, pistachios, walnuts
glyphosate		herbicide	2997, 2301, 5810, 5972, 1855, 2301, 5820, 2275, 2327	EMON-SM-05-045 (GW)	landscape, almonds, grapes, uncultivated non-agricultural areas, walnuts, rights of way, tangerines, greenhouse flowers, pistachios, cotton
halosulfuron-methyl		herbicide	3919	EMON-SM-05-044 (GW)	rice, landscape, corn, tomatoes, walnuts, pistachios, alfalfa, sorghum
hexazinone		herbicide	1871	EM 62.9 (GW & SW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	alfalfa, forest, forage grasses, rights of way, uncultivated ag, commodity research, landscape
imidacloprid		insecticide	3849	EMON-SM-05-032 (GW) EMON-SM-05-034 (Soil) EMON-SM-05-049 (SW)	wine grapes, tomatoes, structural pest control, table and raisin grapes, citrus
imidacloprid olefin	olfenic imidacloprid	degradate of imidacloprid	5901	EMON-SM-13.0 (GW)	NA
imidacloprid urea		degradate of imidacloprid	5903	EMON-SM-13.0 (GW)	NA
imidacloprid guanidine		degradate of imidacloprid	5900	EMON-SM-13.0 (GW)	NA
imidacloprid olfenic guanidine		degradate of imidacloprid	5902	EMON-SM-13.0 (GW)	NA

PESTICIDE INFORMATION



Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023

Pesticide or Degradate	Synonyms	Pesticide Type	CDPR Chemical Code	CDPR Analytical Method	Primary Uses
indoxacarb		insecticide	4001, 5331	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	alfalfa, cotton, structural pest control, broccoli, tomatoes, peaches, cauliflower
isoxaben	benzamizole	herbicide	2289	EM-SM-05-025 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW) EMON-SM-05-032 (GW)	rights of way, grapes, almonds, landscape
kresoxim-methyl		fungicide	5451	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	grapes, pears, apples, greenhouse plants
linuron	methoxydiuron	herbicide	361	EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	carrots, celery, cilantro, parsley, asparagus, dill, peas
malathion		insecticide	367	EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	cotton, alfalfa, strawberries, lettuce, broccoli, celery, tomatoes
MCPA	(2-methyl-4-chlorophenoxy) acetic acid (4-chloro-2-methylphenoxy) acetic acid	herbicide	2326, 786, 5059, 784, 785, 786, 787, 788, 6263	EMON-SM-05-044 (GW) EMON-SM-05-012 (SW)	wheat, barley, landscape, oats, rangeland
MCPP	mecoprop	herbicide	374	EMON-SM-05-050 (GW)	landscape, outdoor container nursery
mefenoxam/metalaxyl	metalaxyl-m	fungicide	4011, 2132	EM-SM-05-025 (GW) EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	almonds, spinach, carrots, onions, tomatoes, strawberries, tangerines
mesotrione		herbicide	6069	EMON-SM-05-050 (GW)	almonds, pistachios, walnuts, tangerines, oranges, aquatic area
methidathion		insecticide	1689	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	timothy, forage grasses, apples, structural pest control
methiocarb		insecticide, molluscicide	375	EMON-SM-05-032 (GW) EMON-SM-05-050 (GW)	outdoor container nursery, outdoor flowers, structural pest control
methomyl		insecticide	383	EM-SM-05-025 (GW) EMON-SM-05-032 (GW) EMON-SM-05-049 (SW)	corn, lettuce, alfalfa, onions, celery, brussel sprouts
methoxychlor		insecticide	384	NA	not registered for use in California since 2000
methoxyfenozide		insect growth regulator	5698	EMON-SM-05-049 (SW) EMON-SM-05-032 (GW) EMON-SM-05-050 (GW)	almonds, pistachios, walnuts, grapes, alfalfa, tomatoes for processing
methyl parathion	parathion methyl	insecticide, nematicide	394, 4083	EMON-SM-05-032 (GW)	landscape, wine grapes

PESTICIDE INFORMATION

Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023



Pesticide or Degradate	Synonyms	Pesticide Type	CDPR Chemical Code	CDPR Analytical Method	Primary Uses
metolachlor	S-metolachlor	herbicide	1996	EMON-SM-05-032 (GW) EMON-SM-05-034 (Soil) EMON-SM-05-034A (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW) EM 38.0	tomatoes, corn, beans, soil preplant, potatoes, uncultivated ag, sorghum
metolachlor ESA	metolachlor ethanesulfonic acid	degradate of metolachlor	5806	EMON-SM-05-034 (Soil) EMON-SM-05-034A (GW) EMON-SM-05-050 (GW) EM 38.0 (GW)	NA
metolachlor OXA	metolachlor OA metolachlor oxanilic acid	degradate of metolachlor	5807	EMON-SM-05-034 (Soil) EMON-SM-05-034A (GW) EM 38.0 (GW)	NA
metribuzin		herbicide	1692	EM 62.9 (GW & SW) EMON-SM-05-032 (GW) EMON-SM-05-051 (GW) EMON-SM-05-049 (SW)	alfalfa, tomatoes, potatoes, forage grasses, garbanzo beans, carrots, asparagus soil preplant
metribuzin DA	desaminometribuzin metribuzin desamino 6-(1,1-dimethylethyl)-3-(methylthio)- 1,2,4-triazin-5-(4H)-one	degradate of metribuzin	4079, 6469	EMON-SM-05-050 (GW) EMON-SM-05-051 (GW)	NA
metribuzin DADK	desaminodiketometribuzin metribuzin desaminodiketo 6-(1,1-dimethylethyl)-3,5-(diketo)- 1,2,4- triazin-5-(2H,4H)-dione	degradate of metribuzin	NA	EMON-SM-05-051 (GW)	NA
metribuzin DK	diketometribuzin metribuzin diketo 4-amino-6-(1,1-dimethylethyl)-3,5- (diketo)-1,2,4-triazin-5-(2H,4H)-dione	degradate of metribuzin	6408	EMON-SM-05-051 (GW)	NA
metsulfuron methyl		herbicide	2222	EMON-SM-05-050 (GW)	NA
molinate		herbicide	449	EMON-SM-05-044 (GW) EM-SM-05-001 (GW)	NA
MTP	dacthal monoacid monomethyl tetrachloroterephthalic acid	degradate of DCPA	4081, 6046, 6387	EMON-SM-05-040 (GW)	NA

PESTICIDE INFORMATION

Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023



Pesticide or Degradate	Synonyms	Pesticide Type	CDPR Chemical Code	CDPR Analytical Method	Primary Uses
myclobutanil		fungicide	2245	EMON-SM-05-050 (GW) EMON-SM-05-032 (GW)	grapes, strawberries, cherries, tomatoes, cotton, lettuce
napropamide		herbicide	1728	EMON-SM-05-032 (GW) EM-SM-05-004 (GW) EMON-SM-05-050 (GW)	broccoli, cauliflower, outdoor container nursery, strawberries, brussel sprouts, basil, outdoor flower nursery tomatoes
norflurazon		herbicide	2019	EM 62.9 (GW & SW) EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	alfalfa, almonds, tangerines, walnuts, grapes, blueberries, oranges
ortho-dichlorobenzene		insecticide	578	NA	Not registered for use in California since 1985
orthosulfamuron		herbicide	5904	EMON-SM-05-044 (GW)	rice
oryzalin		herbicide	1868	EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EM 38.0 EM-SM-05-004 (GW)	almonds, pistachios, wine grapes, walnuts, rights of way landscape, table and raisin grapes
oxadiazon		herbicide	2017	EMON-SM-05-049 (SW)	landscape, turf, outdoor container nursery, outdoor flower nursery, rights of way, greenhouse flowers
oxyfluorfen		herbicide	1973	EMON-SM-05-054 (SW)	tree fruit, nut, vine, field crops, residential
pendamethalin		herbicide	1929	EMON-SM-05-054 (SW)	field corn, potatoes, rice, sorghum, cotton, soybeans, tobacco, peanuts, sunflowers, residential
penoxsulam		herbicide	5889	EMON-SM-05-044 (GW) EMON-SM-05-050 (GW)	rice, almonds, pistachios, rights of way, walnuts, forests, pomegranates
phorate		insecticide, nematicide	478	EMON-SM-05-032 (GW)	cotton, outdoor flower nursery, potatoes, corn, landscape
piperonyl butoxide	PBO	insecticide, synergist	486	EMON-SM-05-032 (GW)	structural and public health pest control, almonds, strawberries, buildings, landscape, oranges
prodiamine		herbicide	2236	EMON-SM-05-054 (SW)	turf, soybeans, alfalfa, cotton, ornamental crops
prometon		herbicide	499	EM 62.9 (GW & SW) EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	structural pest control
prometryn		herbicide	502	EMON-SM-05-032 (GW) EM 62.9 (GW & SW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	celery, cilantro, parsley, fennel, carrots, cotton, dill

PESTICIDE INFORMATION

Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023



Pesticide or Degradate	Synonyms	Pesticide Type	CDPR Chemical Code	CDPR Analytical Method	Primary Uses
propanil	3,4-dichloropropionanilide	herbicide	503	EMON-SM-05-032 (GW) EMON-SM-05-044 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	rice, almonds, cherries
propargite		insecticide	445	EMON-SM-05-049 (SW)	corn, walnuts, almonds, alfalfa, cherries, cotton, sorghum
propiconazole		fungicide	2276	EMON-SM-05-044 (GW) EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	almonds, walnuts, wood treatment, landscape, peaches, celery, garlic
propyzamide		herbicide	694	EM-SM-05-025 (GW)	lettuce, radicchio, endive, ornamental turf, artichokes
pyraclostrobin		fungicide	5759	EMON-SM-05-049 (SW) EMON-SM-05-032 (GW) EMON-SM-05-050 (GW)	almonds, grapes, strawberries, tomatoes, walnuts, tangerines
pyriproxyfen		insect growth regulator	4019	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	oranges, structural pest control, almonds, cotton, walnuts, tangerines, peaches
quinoxifen		fungicide	5787	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	grapes, strawberries, cherries, peaches, bell peppers, watermelons
simazine		herbicide	531	EM 62.9 (GW & SW) EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	grapes, oranges, almonds, avocado, walnuts, olives, rights of way
sulfentrazone		herbicide	5923	EMON-SM-05-041 (GW) EMON-SM-05-050 (GW)	landscape, rights of way, mint, strawberries, grapes, wine grapes, walnuts
sulfentrazone-3-carboxylic acid	SCA	degradate of sulfentrazone	NA	EMON-SM-05-041 (GW)	NA
sulfoxaflor		insecticide	6109	EMON-SM-05-049 (SW)	cotton, lettuce, broccoli, celery, brussels sprouts, cauliflower
tebuconazole		fungicide	3850	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	wine grapes, almonds, table and raisin grapes, walnuts, wood treatment, landscape, garlic
tebufenozide		insect growth regulator	3957	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	wine grapes, greenhouse propagation
tebuthiuron		herbicide	1810	EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-005 (GW) EM 62.9 (GW & SW) EMON-SM-05-050 (GW)	landscape, rights of way, uncultivated non ag, structural pest control

PESTICIDE INFORMATION

Groundwater Protection Program Fact Sheet, Data Sources Checked July 2023



Pesticide or Degradate	Synonyms	Pesticide Type	CDPR Chemical Code	CDPR Analytical Method	Primary Uses
tefluthrin		insecticide	3839	NA	never registered for use in California
tetraconazole		fungicide	5939	EMON-SM-05-050 (GW)	grapes, strawberries, bell peppers, watermelons, cantaloupe, melons
thiabendazole	2-(4-thiazolyl) benzimidazole	biocide, fungicide	587	EMON-SM-05-054 (GW)	potato seed-pieces, sweet potato seed pieces, soybeans, wheat, mushrooms, citrus fruits, apples, pears, bananas, mangos, papaya, plantain, carrots, avocados, peas, potatoes
thiacloprid		insecticide	5888	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	landscape
thiamethoxam		insecticide	5598	EMON-SM-05-032 (GW) EMON-SM-05-049 (SW)	oranges, sunflowers, wine grapes, tomatoes, other fumigation lettuce, cotton
thiobencarb	benthiocarb	herbicide	1933	EMON-SM-05-044 (GW) EMON-SM-05-032 (GW) EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	rice, uncultivated non ag
TPA	dacthal diacid tetrachloroterephthalic acid	degradate of DCPA	4099	EMON-SM-05-040 (GW)	NA
trallate		herbicide	49	EMON-SM-05-032 (GW)	bermudagrass
tribufos	tribufos (DEF) S,S,S-tributylphosphorotrithioate	defoliant, plant growth regulator	190	EMON-SM-05-050 (GW)	cotton
triclopyr		herbicide	2131, 2170, 6281	EMON-SM-05-044 (GW) EMON-SM-05-012 (SW)	rights of way, rice, forests, landscape, uncultivated non-ag, uncultivated ag, pasture
trifloxystrobin		fungicide	5321	EMON-SM-05-049 (SW) EMON-SM-05-050 (GW)	almonds, grapes, strawberries, pistachios, cherries, peaches
triflumizole		fungicide	2260	EMON-SM-05-050 (GW)	grapes, strawberries, cherries, brussels sprouts, pears, watermelons
trifluralin		herbicide	597	EMON-SM-05-054 (SW)	brassicas, beans, peas, carrots, parsnips, lettuce, capsicums, tomatoes, artichokes, onions, garlic, vines, strawberries, raspberries, citrus fruit, oilseed rape, groundnuts, soybeans, sunflowers, safflowers, ornamental plants, cotton, sugar beets, sugarcane, forestry, residential
uniconazole	uniconazole-P	fungicide	2312	EMON-SM-05-032 (GW)	greenhouses, outdoor propagation, container, and flower nurseries, tomatoes