

# Use Trends of Biopesticides: Cumulative Acres Treated

Text files of data are available at <<https://files.cdpr.ca.gov/pub/outgoing/pur/data/>>. The reported cumulative acres treated with chemicals that are biopesticides. Biopesticides include microorganisms and naturally occurring compounds, or compounds similar to those found in nature that are not toxic to the target pest (such as pheromones). Use includes primarily agricultural applications (Most nonagricultural pesticide use reports are not required to report acreage). The grand total for acres treated may be less than the sum of acres treated for all chemicals because some products contain more than one active ingredient. Values are rounded. N/A means there was not any reported acres treated during that year.

Chemical	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
(3s, 6r)-3-methyl-6-isopropenyl-9-decen-1-yl acetate	3	N/A	N/A	7	N/A	24	N/A	215	8,683	35,138
(3s, 6s)-3-methyl-6-isopropenyl-9-decen-1-yl acetate	3	N/A	N/A	7	N/A	24	N/A	215	8,683	35,138
(e)-4-tridecen-1-yl acetate	3,982	3,995	N/A	N/A	N/A	1,074	N/A	N/A	N/A	<1
(e)-5-decen-1-ol	N/A	N/A	N/A	53	83	20	166	354	264	242
(e)-5-decenol	118	249	166	502	837	639	348	368	832	1,053
(e)-5-decenyl acetate	118	249	166	555	920	659	514	721	1,095	1,295
(e,e)-9, 11-tetradecadien-1-yl acetate	3	474	759	608	985	466	645	349	361	364
(e,z)-7,9-dodecadien-1-yl acetate	N/A	5,168	18,104	22,856	2,479	1,623	N/A	N/A	N/A	N/A
(s)-kinoprene	510	490	346	506	675	750	990	691	679	869
(s)-verbenone	N/A	N/A	N/A	100	N/A	N/A	<1	<1	3	1
(z)-11-hexadecen-1-yl acetate	1,622	N/A	49	N/A	N/A	N/A	N/A	26	2,994	1,807
(z)-11-hexadecenal	N/A	N/A	N/A	N/A	N/A	N/A	74	145	2,951	1,351
(z)-4-tridecen-1-yl acetate	3,982	3,995	N/A	N/A	N/A	1,074	N/A	N/A	N/A	<1
(z)-9-dodecenyl acetate	123	74	1,814	392	555	1,966	950	N/A	N/A	N/A

Chemical	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
(z,e)-7,11-hexadecadien-1-yl acetate	93	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
(z,z)-11,13-hexadecadienal	N/A	763	11,336	17,283	20,591	38,681	61,037	66,068	67,233	89,479
(z,z)-7,11-hexadecadien-1-yl acetate	93	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,4-dimethylnaphthalene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,7-dioxaspiro-(5,5)-undecane	6	<1	<1	30	43	25	32	N/A	N/A	N/A
1-methylcyclopropene	61	3	1	17	21	14	10	6	13	5
1-naphthaleneacetamide	607	408	315	393	343	394	257	338	319	483
2,4-decadienoic acid, ethyl ester, (2e,4z)-	N/A	N/A	N/A	N/A	N/A	179	3,247	1,309	1,014	583
2-methyl-1-butanol	N/A	N/A	N/A	N/A	<1	<1	<1	<1	<1	<1
3,13 octadecadien-1-yl acetate	N/A	50	131	N/A	<1	N/A	10	25	N/A	N/A
3,7-dimethyl-6-octen-1-ol	349	1,531	788	2,220	3,939	3,545	3,111	4,331	5,936	5,749
acetic acid	226	110	162	3,165	3,114	10,301	15,775	10,437	18,729	13,906
agrobacterium radiobacter	215	362	507	852	622	664	806	613	99	570
agrobacterium radiobacter, strain k1026	5,086	81	19	4,947	9,016	754	745	<1	N/A	N/A
allyl isothiocyanate	N/A	N/A	N/A	<1	N/A	N/A	N/A	<1	N/A	N/A
almond, bitter	471	74	412	271	88	68	73	N/A	4	198
amino ethoxy vinyl glycine hydrochloride	5,611	10,179	11,108	14,991	16,371	17,666	20,248	14,254	13,067	25,478
ammonium bicarbonate	6	<1	<1	30	43	25	32	N/A	N/A	N/A
ammonium nitrate	679,859	726,842	817,316	867,336	1,085,302	953,176	988,164	882,572	829,331	742,539
ammonium nonanoate	N/A	N/A	N/A	N/A	239	284	452	459	320	455
ampelomyces quisqualis	22	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Chemical	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
aspergillus flavus strain af36	N/A	N/A	260	48,833	89,337	147,011	159,586	183,128	188,090	207,257
aureobasidium pullulans strain dsm 14940	N/A	N/A	N/A	N/A	254	2,823	1,569	5,376	8,675	18,077
aureobasidium pullulans strain dsm 14941	N/A	N/A	N/A	N/A	254	2,823	1,569	5,376	8,675	18,077
azadirachtin	82,722	71,707	70,228	98,803	113,960	159,292	193,929	175,608	175,645	150,779
bacillus amyloliquefaciens strain d747	N/A	N/A	N/A	2,337	29,684	41,678	38,545	57,375	90,603	68,085
bacillus amyloliquefaciens strain mbi 600	N/A	N/A	N/A	2	<1	N/A	N/A	165	1,607	4,793
bacillus firmus (strain i-1582)	N/A	N/A	N/A	N/A	N/A	12	45	41	43	29
bacillus mycoides isolate j	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11,591	5,455
bacillus popilliae	N/A	N/A	N/A	N/A	<1	<1	<1	<1	N/A	<1
bacillus pumilus, strain qst 2808	75,509	72,582	84,256	76,229	68,102	83,406	89,485	83,283	95,326	84,823
bacillus sphaericus 2362, serotype h5a5b, strain abts 1743 fermentation solids, spores and insecticidal toxins	<1	9	<1	231	38	110	118	233	542	<1
bacillus subtilis gb03	2	<1	6	<1	21	302	467	609	2,293	1,473
bacillus subtilis strain iab/bs03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,277
bacillus subtilis var. amyloliquefaciens strain fzb24	N/A	N/A	N/A	406	1,702	3,516	4,328	152	<1	N/A
bacillus thuringiensis (berliner)	82	127	877	292	248	91	249	247	573	186
bacillus thuringiensis (berliner), subsp. aizawai, gc-91 protein	48,842	40,395	18,657	25,262	22,511	28,611	26,155	25,221	48,924	53,734

Chemical	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>bacillus thuringiensis (berliner), subsp. aizawai, serotype h-7</b>	7,888	6,943	7,766	6,064	3,296	2,941	1,360	624	1,025	451
<b>bacillus thuringiensis (berliner), subsp. israelensis, serotype h-14</b>	501	1,873	337	773	1,107	1,254	1,713	334	836	149
<b>bacillus thuringiensis (berliner), subsp. kurstaki strain sa-12</b>	19,700	10,721	8,222	15,379	9,855	10,751	10,850	13,714	3,214	326
<b>bacillus thuringiensis (berliner), subsp. kurstaki, serotype 3a,3b</b>	7,807	2,269	3,063	1,973	818	453	145	274	777	1,274
<b>bacillus thuringiensis (berliner), subsp. kurstaki, strain eg 2348</b>	1,302	688	3,428	645	3,580	4,038	2,502	4,480	4,004	132
<b>bacillus thuringiensis (berliner), subsp. kurstaki, strain eg2371</b>	N/A	<1	<1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>bacillus thuringiensis (berliner), subsp. kurstaki, strain sa-11</b>	101,522	111,746	84,061	81,574	95,890	111,634	108,411	95,637	120,980	134,836
<b>bacillus thuringiensis (berliner), subsp. san diego</b>	<1	<1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>bacillus thuringiensis subspecies kurstaki strain bmp 123</b>	310	73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>bacillus thuringiensis subspecies kurstaki, genetically engineered strain eg7841 lepidopteran active toxin</b>	62	3	200	373	5	99	116	473	8	3
<b>bacillus thuringiensis var. kurstaki strain m-200</b>	<1	N/A	N/A	N/A	N/A	N/A	<1	N/A	1	<1

Chemical	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
bacillus thuringiensis var. kurstaki, genetically engineered strain eg7826	250	N/A	N/A	1,320	N/A	N/A	N/A	9	N/A	37
bacillus thuringiensis, subsp. aizawai, strain abts-1857	41,724	37,209	35,300	41,720	36,837	68,895	70,582	86,966	111,201	104,319
bacillus thuringiensis, subsp. aizawai, strain sd-1372, lepidopteran active toxin(s)	2,136	1,057	640	4	113	47	306	120	77	118
bacillus thuringiensis, subsp. israelensis, strain am 65-52	270	758	1,052	1,305	793	2,524	2,009	1,419	1,088	8,064
bacillus thuringiensis, subsp. kurstaki, strain abts-351, fermentation solids and solubles	120,801	162,444	152,510	164,936	147,805	192,454	152,721	193,013	230,441	213,550
bacillus thuringiensis, subsp. kurstaki, strain hd-1	20,295	18,465	15,940	15,228	10,138	7,887	11,007	2,241	2,744	1,221
bacillus thuringiensis, var. kurstaki delta endotoxins cry 1a(c) and cry 1c (genetically engineered) encapsulated in pseudomonas fluorescens (killed)	52	2	<1	10	N/A	<1	N/A	<1	N/A	2
bacteriophage active against xanthomonas campestris pv. vesicatoria and pseudomonas syringae pv. tomato	N/A	N/A	11	25	21	12	N/A	N/A	1	N/A
balsam fir oil	N/A	<1	N/A	<1	<1	<1	<1	<1	N/A	<1
beauveria bassiana hf 23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	32	69	81
beauveria bassiana strain gha	2,188	1,686	2,706	4,011	6,857	10,900	14,356	11,145	16,947	17,959

Chemical	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
beta-conglutin	N/A	N/A	N/A	N/A	N/A	N/A	9,032	12,422	15,510	9,584
buffalo gourd root powder	9	138	N/A	25	161	200	224	114	154	194
burkholderia sp strain a396 cells and fermentation media	N/A	N/A	N/A	N/A	N/A	196	5,531	6,816	17,303	35,064
butyl mercaptan	N/A	N/A	N/A	<1	N/A	N/A	N/A	N/A	N/A	N/A
canola oil	1,541	4,786	3,872	2,329	5,788	4,272	7,455	20,351	47,851	74,737
capsicum oleoresin	325	388	238	576	546	1,541	1,997	2,084	3,777	6,457
carbon dioxide	<1	<1	26	917	5	20	19	2	<1	<1
castor oil	12	<1	<1	<1	<1	<1	<1	<1	N/A	<1
chenopodium ambrosiodes near ambrosiodes	6,395	9,265	6,868	13,401	22,552	25,820	19,072	15,804	15,002	635
chromobacterium subtsugae strain praa4-1	N/A	N/A	N/A	1,424	38,138	61,191	62,467	43,369	48,863	54,929
cinnamaldehyde	N/A	N/A	<1	N/A	N/A	N/A	N/A	N/A	110	<1
citral	N/A	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
citric acid	903,198	1,204,981	1,332,600	1,389,801	1,542,524	1,686,317	1,923,049	2,202,219	2,158,303	2,186,430
clarified hydrophobic extract of neem oil	47,422	42,281	40,773	42,613	60,212	85,369	87,917	65,680	59,517	47,093
codling moth granulosis virus	1,139	984	3,468	3,431	4,339	4,530	3,683	2,938	4,426	4,707
coniothyrium minitans strain con/m/91-08	1,205	395	1,107	1,697	4,286	4,886	6,194	4,105	5,134	3,250
corn syrup	14,316	12,877	27,721	27,760	15,992	14,206	18,817	18,940	48,546	74,160
cottonseed oil	74,544	129,722	177,732	95,344	98,797	78,736	67,349	41,034	36,856	35,581
coyote urine	N/A	<1	12	<1	<1	<1	<1	<1	<1	<1
cytokinin (as kinetin)	N/A	N/A	199	2,409	352	3,290	1,966	1,910	3,506	5,052
diallyl disulfide	N/A	N/A	N/A	N/A	N/A	N/A	N/A	225	223	N/A
dihydro-5-heptyl-2(3h)-furanone	<1	<1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
dihydro-5-pentyl-2(3h)-furanone	<1	<1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
e,e-8,10-dodecadien-1-ol	15,309	15,283	17,872	15,879	18,241	16,548	10,763	12,918	17,123	15,845
e-11-tetradecen-1-yl acetate	5,592	5,405	1,701	4,485	4,396	489	696	369	1,000	421

Chemical	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
e-8-dodecenyl acetate	46,757	49,591	45,667	49,300	47,640	41,405	42,645	39,638	38,080	41,944
encapsulated delta endotoxin of bacillus thuringiensis var. kurstaki in killed pseudomonas fluorescens	37	N/A	<1	<1	N/A	N/A	N/A	N/A	N/A	N/A
essential oils	<1	4	<1	<1	<1	<1	<1	181	61	169
ethylene	N/A	4	70	49	36	21	28	77	26	17
eucalyptus oil	N/A	2	<1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
eugenol	N/A	N/A	N/A	<1	<1	<1	<1	<1	<1	<1
farnesol	503	1,597	826	2,227	3,940	3,547	3,121	4,331	5,936	5,749
fenugreek	471	74	412	271	88	68	73	N/A	4	198
ferric sodium edta	N/A	N/A	3,049	8,428	8,038	10,540	12,522	13,115	13,697	14,347
fish oil	N/A	N/A	<1	382	252	N/A	N/A	66	N/A	N/A
formic acid	10	60	1	369	5	178	1,203	60	1	402
fox urine	N/A	<1	12	<1	<1	<1	<1	<1	<1	<1
gamma aminobutyric acid	1,786	835	542	1,811	385	314	287	N/A	N/A	N/A
garlic	374	1,123	1,369	12,410	14,485	8,509	4,767	7,185	3,819	6,613
geraniol	349	1,531	788	2,220	3,939	3,545	3,111	4,331	5,936	5,749
german cockroach pheromone	<1	<1	<1	<1	<1	<1	N/A	<1	<1	<1
gibberellins	514,164	493,034	509,758	529,744	548,185	530,086	523,059	544,711	501,836	505,422
gibberellins, potassium salt	N/A	34	150	795	N/A	N/A	N/A	N/A	58	N/A
gliocladium virens gl-21 (spores)	716	1,401	1,076	3,172	5,444	5,187	7,439	7,140	4,914	4,300
glutamic acid	1,786	835	542	1,811	385	314	287	N/A	N/A	N/A
gs-omega/kappa-hctx-hv1a (versitide peptide)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	1
harpin protein	1,562	1,631	1,582	115	95	1	N/A	112	<1	N/A
heptyl butyrate	N/A	<1	<1	<1	<1	<1	<1	<1	<1	<1
hydrogen peroxide	14,521	23,208	39,194	21,863	22,955	27,951	32,676	69,022	65,560	103,587
hydroprene	82	<1	<1	2	4	<1	<1	7	28	35
iba	150	227	1,156	1,283	962	940	489	808	1,437	527
indole	N/A	N/A	N/A	N/A	<1	N/A	<1	<1	<1	<1

Chemical	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
iron hedta	N/A	N/A	N/A	<1	2	<1	<1	<1	2	<1
iron phosphate	4,561	6,345	5,477	6,519	6,286	8,109	8,618	13,322	11,965	9,264
kaolin	66,850	82,636	51,100	57,755	80,075	88,044	101,645	115,468	103,356	98,959
kinoprene	3	4	9	3	6	25	7	3	<1	6
lactic acid	N/A	N/A	N/A	N/A	N/A	N/A	38	59	225	3
lactose	80,355	81,164	91,936	68,442	80,242	61,764	81,390	77,746	74,127	70,016
lagenidium giganteum (california strain)	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A	N/A	N/A
lauryl alcohol	4,705	5,495	6,443	6,652	7,807	5,681	5,725	4,718	4,354	4,765
lavandulyl senecioate	2,375	7,025	11,754	6,666	5,869	6,294	8,424	18,076	74,825	141,775
limonene	55,465	29,621	15,514	73,605	29,552	32,924	45,208	40,224	68,084	54,142
linalool	1	<1	<1	<1	<1	2	<1	<1	<1	<1
margosa oil	N/A	40	4,260	7,977	9,546	19,013	19,917	25,809	32,241	23,369
menthol	N/A	2	<1	N/A	20	N/A	N/A	N/A	N/A	N/A
metarhizium anisopliae strain f52	N/A	N/A	N/A	202	133	634	122	55	2	<1
metarhizium anisopliae, var. anisopliae, strain esf1	N/A	<1	<1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
methoprene	211	4	896	<1	<1	<1	<1	42	106	<1
methyl anthranilate	551	380	2,043	215	1,092	808	895	1,463	2,490	2,041
methyl eugenol	N/A	N/A	<1	N/A	<1	N/A	N/A	<1	<1	<1
methyl nonyl ketone	1	<1	N/A	N/A	<1	<1	<1	<1	<1	<1
methyl salicylate	<1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10	44
muscalure	739	300	68	40	50	139	41	19	178	125
myristyl alcohol	4,705	5,495	6,443	6,652	7,807	5,681	5,725	4,718	4,354	4,765
myrothecium verrucaria, dried fermentation solids & solubles, strain aarc-0255	5,331	4,840	5,136	4,274	4,456	3,637	8,775	6,473	4,075	5,037
n6-benzyl adenine	2,072	3,352	1,691	1,666	2,954	2,630	2,595	2,999	2,322	3,160
naa	47	38	219	655	293	109	210	84	84	17
naa, ammonium salt	9,024	9,140	9,075	11,922	10,611	9,703	9,966	778	671	2,792
naa, ethyl ester	1	23	396	384	112	189	37	45	7,899	8,232
naa, potassium salt	N/A	N/A	N/A	N/A	6	110	35	8,819	8,650	5,764
naa, sodium salt	257	N/A	N/A	N/A	153	85	55	11	N/A	N/A
natamycin	N/A	N/A	N/A	N/A	7	32	35	27	5	N/A

Chemical	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
nerolidol	503	1,597	826	2,227	3,940	3,547	3,121	4,331	5,936	5,749
nitrogen, liquefied	<1	<1	<1	<1	<1	5	N/A	N/A	N/A	N/A
nonanoic acid	703	412	828	480	2,166	2,074	1,040	653	1,889	1,394
nonanoic acid, other related	701	412	828	460	2,166	2,074	1,040	653	1,219	619
nosema locustae spores	132	12	12	1,612	1,207	910	750	50	<1	1
oil of anise	N/A	N/A	<1	<1	<1	<1	<1	<1	<1	<1
oil of black pepper	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
oil of cedarwood	N/A	15	N/A	N/A	N/A	N/A	<1	<1	N/A	N/A
oil of citronella	N/A	34	48	N/A	N/A	<1	<1	<1	<1	<1
oil of geranium	N/A	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
oil of jojoba	7,203	8,255	1,762	1,077	316	323	83	16	5	N/A
oil of lemon eucalyptus	N/A	N/A	<1	<1	N/A	N/A	N/A	N/A	N/A	N/A
oil of orange	N/A	N/A	N/A	N/A	N/A	N/A	21,472	37,651	66,215	53,652
oil of peppermint	N/A	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
oxypurinol	N/A	N/A	N/A	N/A	N/A	6	N/A	N/A	N/A	N/A
paecilomyces fumosoroseus apopka strain 97	N/A	N/A	N/A	2,109	12,822	18,487	19,076	31,000	26,577	15,462
pantoea agglomerans strain e325, nrri b-21856	698	55	25	50	50	N/A	N/A	N/A	N/A	N/A
phenylethyl propionate	94	<1	<1	<1	<1	<1	<1	<1	<1	<1
phosphoric acid, monopotassium salt	<1	1,021	1,275	561	219	<1	1,837	3,142	2,284	2,025
piperine	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
polyhedral occlusion bodies (ob's) of the nuclear polyhedrosis virus of helicoverpa zea (corn earworm)	254	302	14,752	1,297	337	518	1,011	4,902	8,857	8,803
polyoxin d, zinc salt	1,299	19,082	69,674	95,645	143,483	165,601	191,654	231,736	242,630	261,976
potassium bicarbonate	69,155	101,283	118,642	75,356	85,844	85,701	112,047	156,452	162,321	124,850
potassium phosphite	36,665	92,671	82,323	115,741	131,552	214,917	199,571	299,256	387,605	411,056
potassium silicate	274	48	808	537	3,524	12,973	13,499	12,133	14,938	8,228
potassium sorbate	2	105	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Chemical	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
propylene glycol	381,957	591,332	662,523	676,470	974,665	1,069,976	1,107,603	1,122,784	1,209,430	1,171,518
propyleneglycol monolaurate	3	12	N/A	N/A	159	76	N/A	N/A	N/A	N/A
pseudomonas fluorescens, strain a506	2,463	1,472	1,281	372	431	1,178	376	601	524	533
pseudomonas syringae, strain esc-10	N/A	3	N/A	N/A	<1	N/A	N/A	N/A	N/A	N/A
purpureocillium lilacium strain 251	N/A	1,115	2,330	3,531	20,039	25,826	32,089	26,924	22,662	15,819
putrescent whole egg solids	33	2	<1	<1	<1	<1	<1	<1	<1	<1
pythium oligandrum dv74	N/A	N/A	2	2	63	N/A	N/A	N/A	N/A	N/A
qst 713 strain of dried bacillus subtilis	81,484	100,689	118,033	124,702	141,250	138,006	140,825	130,215	128,141	143,369
quillaja	22,595	22,949	30,225	22,907	28,538	30,232	31,107	53,339	53,857	68,592
reynoutria sachalinensis	1,297	70,363	90,750	94,114	96,188	95,988	105,535	128,066	124,832	111,531
s-abscisic acid	502	5,197	9,528	14,974	11,645	12,761	11,202	11,471	12,079	8,770
s-methoprene	47,350	65,114	62,628	87,637	49,491	53,371	102,129	76,961	53,963	71,084
sawdust	<1	<1	N/A	74	109	N/A	N/A	160	N/A	N/A
sesame oil	1,448	1,912	1,938	39	1	N/A	N/A	N/A	N/A	6
silver nitrate	N/A	<1	<1	5	N/A	N/A	N/A	<1	1	N/A
sodium bicarbonate	57	1	967	1,026	291	544	706	796	162	1
sodium carbonate peroxyhydrate	1,453	3,666	6,566	13,797	11,764	17,035	8,051	10,137	7,129	12,824
sodium chloride	<1	<1	2	73	207	135	66	134	144	42
sodium lauryl sulfate	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sorbitol octanoate	268	N/A	42	N/A	N/A	N/A	N/A	N/A	<1	N/A
soybean oil	4,557	6,845	3,636	3,302	4,524	6,275	5,476	7,018	7,910	18,418
streptomyces griseoviridis strain k61	<1	<1	1	<1	5	10	18	5	4	5
streptomyces lydicus wyec 108	4,009	6,998	6,404	10,367	16,071	14,050	16,546	20,474	15,963	10,132
sucrose octanoate	930	1,172	148	1	5	10	2	12	<1	N/A
sugar	4,507	1,527	5,807	4,843	1,062	1,427	452	504	86	212
thyme	68	<1	<1	<1	<1	<1	<1	<1	<1	<1

Chemical	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
thyme oil	N/A	N/A	N/A	N/A	N/A	N/A	<1	<1	<1	<1
thymol	50	423	10	18	1	1	1,267	490	44	311
trichoderma harzianum rifai strain krl-ag2	320	7,253	871	1,088	994	2,497	2,346	2,207	2,244	2,404
trichoderma icc 012 asperellum	N/A	N/A	86	704	604	35	251	159	92	139
trichoderma icc 080 gamsii	N/A	N/A	86	704	604	35	251	159	92	139
trimethylamine	N/A	N/A	N/A	N/A	<1	N/A	<1	<1	<1	<1
ulocladium oudemansii (u3 strain)	N/A	N/A	N/A	N/A	19	707	406	150	28	1,674
vanillin	471	74	412	271	88	68	73	N/A	4	198
vegetable oil	211,586	292,501	458,756	266,226	350,771	243,680	311,693	405,341	603,896	584,304
xanthine	N/A	N/A	N/A	N/A	N/A	6	N/A	N/A	N/A	N/A
yeast	3,957	1,307	5,261	3,729	325	142	220	25	6	14
yucca schidigera	598	2,316	4,907	16,093	19,524	11,285	7,347	9,376	6,289	10,926
z,e-9,12-tetradecadien-1-yl acetate	1,622	<1	49	<1	<1	<1	<1	<1	43	507
z-11-tetradecen-1-yl acetate	5,589	4,931	942	3,877	3,411	23	51	20	639	57
z-8-dodecenol	46,757	49,591	45,667	49,300	47,640	41,405	42,645	39,638	38,080	41,944
z-8-dodecenyl acetate	46,757	49,591	45,667	49,300	47,640	41,405	42,645	39,638	38,080	41,944
<b>Total</b>	<b>3,986,178</b>	<b>4,910,149</b>	<b>5,503,387</b>	<b>5,585,447</b>	<b>6,547,837</b>	<b>6,925,141</b>	<b>7,487,719</b>	<b>8,018,198</b>	<b>8,558,267</b>	<b>8,604,231</b>