



September 22, 2008

OPP Regulatory Public Docket (7502P)
U. S. Environmental Protection Agency
2777 S. Crystal Drive
Arlington, VA 22202-4501

RE: Docket Identification Number EPA-HQ-OPP-2008-0351
Federal Register Volume 73, No. 123, Wednesday, June 25th, 2008, Pages 36077-36080
Diazinon Registration Review - Usage Information

Dear OPP –

On June 25th 2008, EPA announced in the Federal Register the opening of the Diazinon Registration Review docket for public comment. Makhteshim Agan of North America, Inc (MANA), on behalf of ourselves and our parent company, Makhteshim Chemical Works (MCW), is submitting a series of entries to the public docket as our response to the call for comments. MANA and MCW hold technical and end use registrations for pesticide products containing diazinon.

This set of comments and information provides some of the use data that was requested in the diazinon summary document.

We are enclosing quite a bit of documentation for use of diazinon in California, including:

- Use Trends for Cholinesterase Inhibiting Pesticides 1996 - 2006
- Diazinon – California Use Data 2002-2006
- California Endangered Species Act Restrictions for Diazinon
- Diazinon Use total lbs a.i.– San Joaquin River Drainage Basin 2001 – 2006
- Comparison of Diazinon use – San Joaquin River Drainage Area 2001 – 2006
- Comparison of Diazinon use – Sacramento River Drainage Area 2004-2006

In addition to providing statewide data for diazinon, we have also provided data for the two major CA watersheds – the Sacramento Valley and the San Joaquin valley. This data clearly shows a reduction in amount used throughout the ‘00’s, indicating that mitigation measures that have been put into place are working to lower the amount of product used. The data also shows that the use of diazinon on certain crops is essential due to a lack of a viable alternative (use on stone fruits, attributed to overwintering aphids and scale insects; foliar use on melons).



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The Washington State Department of Agriculture has a document entitled “Pesticides Subject to Buffer Zones in Washington State.” It can be accessed at <http://agr.wa.gov/PestFert/natresources/docs/EffectsbyESU.pdf> . This document, along with your own document entitled “Court Ordered Buffers Around Pacific Salmon Supporting Waters” (<http://www.epa.gov/espp/litstatus/wtc/maps.htm>) gives a clear picture of current buffer zones enacted to protect endangered species.

Please be advised that MANA has published additional comments to the “Draft Biological Opinions on Pacific Salmon and Steelhead Issued under the Endangered Species Act (NMFS)” Docket (Docket Number EPA-HQ-OPP-2008-0654), which might also give additional usage information.

In the Diazinon Summary Document, EPA requested various labeling and usage information. In MANA’s comments to the Preliminary Problem Formulation (also submitted to this docket), we commented on and revised labeling and usage information that EPA had included in that document.

Sincerely,

P. Leanne Pruett
Regulatory Product Manager

USE TRENDS OF CHOLINESTERASE-INHIBITING PESTICIDES

Table 5A. The reported pounds of cholinesterase-inhibiting pesticides used. These pesticides are the currently registered organophosphate and carbamate active ingredients. Use includes both agricultural and reportable non-agricultural applications. Data are from the Department of Pesticide Regulation's Pesticide Use Reports.

AI	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
3-iodo-2-propynyl butylcarbamate	<1	0	1	<1	<1	<1	0	0	0	0	0
ACEPHATE	355,642	343,840	384,524	307,164	283,367	240,132	217,397	221,781	204,824	195,507	163,662
ALDICARB	545,117	530,066	534,665	280,585	329,319	297,244	244,786	262,103	231,012	230,409	174,196
AZINPHOS-METHYL	406,099	336,353	193,069	216,624	185,055	163,121	151,612	213,892	50,562	55,179	38,775
BENDIOCARB	1,674	259	125	108	593	62	32	23	9	6	2
BENSULIDE	94,593	130,046	192,500	242,460	216,120	186,908	192,220	228,739	237,290	246,148	282,364
BUTYLATE	87,612	84,268	69,805	71,071	32,658	27,640	19,412	26,826	20,323	9,923	2,671
CARBARYL	810,162	754,659	427,546	388,144	364,060	286,199	256,098	205,102	240,135	190,633	156,938
CARBOFURAN	220,622	183,321	161,588	138,665	132,427	95,863	81,486	49,276	30,354	28,093	23,371
CHLORPROPHAM	3,015	2,057	2,321	3,102	3,544	3,504	1,380	6,191	2,861	2,822	3,704
CHLORPYRIFOS	2,723,883	3,212,165	2,451,980	2,259,221	2,094,179	1,673,097	1,419,665	1,545,670	1,778,342	2,005,006	1,919,625
COUMAPHOS	0	0	0	15	152	97	62	64	63	1	3
CYCLOATE	44,628	55,458	62,753	49,096	37,416	31,785	34,387	30,012	43,209	39,709	41,298
DDVP	13,097	13,636	13,998	12,325	12,680	12,833	8,477	3,446	3,807	4,914	6,527
DEMETON	411	0	3	5	2	3	42	<1	0	1	<1
DESMEDIPHAM	6,092	6,188	4,737	6,014	6,651	3,750	3,398	3,636	3,842	3,921	2,944
DIAZINON	1,095,627	956,267	901,388	983,628	1,058,311	999,578	690,375	523,957	492,148	398,583	385,512
DICROTOPHOS	3	0	11	122	0	2	27	41	0	2	6
DIMETHOATE	420,389	515,935	398,448	486,554	396,231	285,548	309,371	294,368	332,049	310,397	292,612
DISULFOTON	142,372	128,335	105,327	95,919	76,201	51,545	54,567	46,815	41,317	31,799	22,601
EPTC	703,996	579,245	393,031	448,883	323,624	276,724	253,634	141,552	182,532	181,790	106,125
ETHEPHON	951,418	882,802	762,217	734,263	734,838	620,075	538,403	574,377	637,205	642,137	579,062
ETHION	2	3	906	64	0	5	13	13	<1	261	13
ETHOPROP	27,955	23,842	27,949	26,196	16,119	19,046	16,531	28,419	23,130	18,924	24,485
FENAMIPHOS	189,379	156,280	125,459	107,745	104,517	66,330	70,939	59,421	58,691	46,336	33,511
FENTHION	141	176	29	22	33	61	79	3	36	15	2
FONOFOS	67,969	50,555	25,349	24,216	4,370	580	465	182	30	15	0
FORMETANATE HYDROCHLORIDE	106,168	97,907	77,723	65,030	43,941	45,280	35,798	28,420	30,651	30,684	33,738
MALATHION	678,702	790,290	663,200	704,893	505,770	554,872	624,604	654,155	492,548	423,433	409,787

Diazinon -- California Use Data 2002-2006 (Pounds Applied)

Top Use Sites	Year				
	2002	2003	2004	2005	2006
Almond	65205	35641	55869	33676	30004
Broccoli	15915	18973	23808	26666	21366
Cantaloupe	7219	9040	6603	4308	2748
Carrot	6677	5751	5750	4090	4855
Cauliflower	5297	6551	6782	8112	7652
Cherry	8325	8909	6276	5910	4807
Corn, Sweet	13003	11107	5192	10282	8130
Landscape Maintenance	33587	10104	3675	1285	941
Lettuce, Head	74293	78712	87027	75783	82283
Lettuce, Leaf	60156	65115	80697	78911	83932
Nectarine	8713	4298	6041	5825	5010
Onion, Dry	23211	22417	12473	5896	9531
Peach	32810	36503	25455	19367	21025
Pear	6331	5098	3895	1112	659
Plum	9049	4192	4352	4516	3677
Prune	38586	32781	28270	19275	20436
Spinach	22972	23415	27855	22793	18793
Structural Pest Control	157566	52291	19860	10603	1615
Sugarbeet	13157	13667	11468	8205	10367
Tomato, Processing	16477	9945	11675	6355	6752
Walnut	9788	6718	8329	6203	6231
Total -- Top Use Sites	628337	461228	441352	359173	350814
Total -- All Uses	689603	523786	492050	397076	385511
Top Sites -- % of All Use	91%	88%	90%	90%	91%

**California Endangered Species Act Restrictions for Diazinon
From County Bulletins and DPR Database**

<u>County</u>	<u>Use Limitations</u>	<u>2006 Use (lbs)</u>
Alameda	10,15,16,17	11
Alpine	None	0
Amador	10,15,16,17	0
Butte	10,15,16,17	5331
Calaveras	10,15,16,17	2
Colusa	10,15,16,17	766
Contra Costa	10,15,16,17	1396
Del Norte	10,15,16,17	3
El Dorado	10,15,16,17	613
Fresno	10,15,16,17	51078
Glenn	10,15,16,17	4374
Humboldt	10,15,16,17	1
Imperial	10,15,16,17	30739
Inyo	10,15,16,17	1
Kern	10,15,16,17	13424
Kings	10,15,16,17	1771
Lake	10,15,16,17	140
Lassen	10,15,16,17	0
Los Angeles	10,15,16,17	4515
Madera	10,15,16,17	3904
Marin	10,15,16,17	1
Mariposa	10,15,16,17	1
Mendocino	10,15,16,17	1
Merced	10,15,16,17	3013
Modoc	10,15,16,17	0
Mono	10,15,16,17	0
Monterey	10,15,16,17	145092
Napa	10,15,16,17	26
Nevada	10,15,16,17	13
Orange	10,15,16,17	186
Placer	10,15,16,17	218
Plumas	10,15,16,17	1
Riverside	10,15,16,17	6219
Sacramento	10,15,16,17	783
San Benito	10,15,16,17	15288
San Bernardino	10,15,16,17	93
San Diego	10,15,16,17	531
San Francisco	10,15,16,17	3
San Joaquin	10,15,16,17	8156
San Luis Obispo	10,15,16,17	7000
San Mateo	10,15,16,17	493
Santa Barbara	10,15,16,17	6960

Santa Clara	10,15,16,17	13166
Santa Cruz	10,15,16,17	8674
Shasta	10,15,16,17	58
Sierra	None	0
Siskiyou	10,15,16,17	0
Solano	10,15,16,17	1232
Sonoma	10,15,16,17	282
Stanislaus	10,15,16,17	8449
Sutter	10,15,16,17	21616
Tehama	10,15,16,17	3808
Trinity	10,15,16,17	1
Tulare	10,15,16,17	6438
Tuolumne	10,15,16,17	1
Ventura	10,15,16,17	2099
Yolo	10,15,16,17	2397
Yuba	10,15,16,17	5142

Use Limitation Codes

10 – Do not use in currently occupied habitat (see Species Descriptions table for possible exceptions).

15 – Provide a 20 foot minimum strip of vegetation (on which pesticides should not be applied) along rivers, creeks, streams, wetlands, vernal pools and stock ponds or on the downhill side of fields where run-off could occur. Prepare land around fields to contain run-off by proper leveling, etc. Contain as much water "on-site" as possible. The planting of legumes, or other cover crops for several rows adjacent to off-target water sites is recommended. Mix pesticides in areas not prone to runoff such as concrete mixing/loading pads, disked soil in flat terrain or graveled mix pads, or use a suitable method to contain spills and/or rinsate. Properly empty and triple-rinse pesticide containers at time of use.

16 – Conduct irrigations efficiently to prevent excessive loss of irrigation waters through run-off. Schedule irrigations and pesticide applications to maximize the interval of time between the pesticide application and the first subsequent irrigation. Allow at least 24 hours between application of pesticides listed in this bulletin and any irrigation that results in surface run-off into natural waters. Time applications to allow sprays to dry prior to rain or sprinkler irrigations. Do not make aerial applications while irrigation water is on the field unless surface run-off is contained for 72 hours following the application.

17 – For sprayable or dust formulations: when the air is calm or moving away from habitat, commence applications on the side nearest the habitat and proceed away from the habitat. When air currents are moving toward habitat, do not make applications within 200 yards by air or 40 yards by ground upwind from occupied habitat. The county agricultural commissioner may reduce or waive buffer zones following a site inspection,

if there is an adequate hedgerow, windbreak, riparian corridor or other physical barrier that substantially reduces the probability of drift.

SUMMARY DIAZINON USE

In lbs active ingredient

2001 – 2006

SAN JOAQUIN RIVER DRAINAGE

County	2001	2002	2003	2004	2005	2006
Fresno	70289	57372	47735	42383	41651	51078
Kern	31738	37252	15922	11291	15365	13424
Kings	14008	4684	3402	3706	1883	1771
Madera	23110	16495	7331	3251	6561	3904
Merced	23995	13859	10037	20004	3712	3013
San Joaquin	17664	16360	22732	20753	10203	8156
Stanislaus	61714	23507	14356	16078	7959	8449
Tulare	43560	30256	13595	10947	7466	6438
Total	286,078	199,785	135,110	86,030	53,149	96,233

COMPARISON OF DIAZINON USE SAN JOAQUIN RIVER DRAINAGE
AREA

2001- 2006

YEAR	2001	2002	2003	2004	2005	2006
County	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai
FRESNO						
Almonds	6681	1553	592	4420	497	1857
Stone Fruit	21414	16983	7474	7455	7871	6235
Melons	4391	8519	8045	6443	6584	5620
Grapes	2650	1069	2887	3626	5192	6754
Lettuce	8932	8647	8253	13600	13231	19300
Walnuts	800	101	573	67	0	1481
Onions	0	619	334	2262	692	874
Tomatoes	109	209	2	0	32	2495
Sweet Corn	475	9014	7888	1789	6065	3683
Structural	17231	8931	4286	718	56	38
Other	7606	1727	7401	3792	1285	2741
Total	70,289	57372	47735	42383	41651	51078

Information from 2001-2006 California use reports.

Year	2001	2002	2003	2004	2005	2006
County	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai
KERN						
Almonds	18815	26928	6085	9758	13552	11696
Stone Fruit	2250	1499	1703	396	803	786
Melons	0	0	315	0	0	23
Grapes	235	330	5	19	2	138
Lettuce	73	0	325	0	511	289
Walnuts	0	0	0	0	0	0
Onions	4681	3854	4782	567	288	156
Tomatoes	0	0	0	0	0	0
Structural	4033	1038	931	147	31	0
Other	1651	603	1776	404	208	336
Total	31738	37252	15922	11291	15365	13424

Year	2001	2002	2003	2004	2005	2006
County	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai
KINGS						
Almonds	826	131	22	101	262	647
Stone Fruit	7100	2461	2244	2858	1574	867
Melons	16	22	649	25	28	15
Grapes	0	0	0	6	0	612
Lettuce	553	0	0	151	0	105
Walnuts	409	0	4	0	0	0
Onions	0	0	0	0	0	0
Tomatoes	0	0	0	519	0	0
Structural	5070	1975	441	38	4	0
Other	34	95	42	8	15	123
Total	14008	4684	3402	3706	1883	1771

Year	2001	2002	2003	2004	2005	2006
County	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai
MADERA						
Almonds	11272	10005	1300	135	662	451
Stone Fruit	6351	4763	2046	2517	4782	3265
Melons	0	0	0	0	0	10
Grapes	187	406	3151	189	810	173
Lettuce	0	0	0	0	0	0
Walnuts	0	0	0	0	112	0
Onions	0	0	0	0	0	0
Tomatoes	1142	284	0	0	0	0
Structural	3091	1173	720	95	60	2
Other	1067	136	114	315	135	3
Total	23110	16495	7331	3251	6561	3904

Information from 2001-2006 California use reports.

Year	2001	2002	2003	2004	2005	2006
County	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai
MERCED						
Almonds	2418	2845	4161	5191	1014	16656
Stone Fruit	2795	4988	3563	13592	1737	454
Melons	1666	1045	938	835	741	603
Grapes	0	0	0	0	0	142
Lettuce	30	0	0	0	0	0
Walnuts	224	0	139	0	0	0
Onions	0	0	0	0	0	0
Tomatoes	485	0	0	122	186	0
Structural	14153	4729	837	184	5	2
Other	2224	252	399	80	29	156
Total	23995	13859	10037	20004	3712	3013

Information from 2001-2006 California use reports.

Year	2001	2002	2003	2004	2005	2006
County	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai
SAN JOAQUIN						
Almonds	7316	5631	9984	11873	6247	5033
Stone Fruit	3692	4951	6688	3130	2658	2374
Melons	132	1004	1230	240	4	9
Grapes	133	180	375	0	30	202
Lettuce	0	0	0	0	0	0
Walnuts	0	664	1161	679	325	75
Onions	0	0	0	60	0	0
Tomatoes	1345	2316	1927	3460	682	322
Structural	3767	635	82	0	0	0
Other	1279	979	1285	1311	257	141
Total	17664	16360	22732	20753	10203	8156

Information from 2001-2006 California use reports.

Year	2001	2002	2003	2004	2005	2006
County	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai
STANISLAUS						
Almonds	3552	4525	7180	9957	5889	6315
Stone Fruit	2444	1662	4077	4638	1264	663
Melons	0	690	405	659	458	303
Grapes	2	9	50	40	20	4
Lettuce	0	0	47	0	0	283
Walnuts	1174	188	305	0	76	41
Onions	0	0	0	0	0	0
Tomatoes	1350	551	1261	115	0	0
Structural	51883	16652	80	20	18	0
Other	1309	770	951	649	234	840
Total	61714	23507	14356	16078	7959	8449

Information from 2001-2006 California use reports.

Year	2001	2002	2003	2004	2005	2006
County	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai	Lbs ai
TULARE						
Almonds	3713	1467	1105	1640	300	338
Stone Fruit	10430	12025	6097	7249	5582	5031
Melons	0	0	0	0	22	0
Grapes	1507	440	228	90	393	178
Lettuce	0	0	0	0	0	0
Walnuts	464	716	312	120	127	2
Onions	0	0	0	0	0	0
Tomatoes	0	0	0	0	0	0
Blueberries	0	0	0	0	588	860
Structural	27024	14792	4412	842	264	0
Other	422	816	1442	1006	193	29
Total	43560	30256	13595	10947	7466	6438

**COMPARISION OF DIAZINON USE SACRAMENTO RIVER
DRAINAGE AREA
2004- 2006**

Year	2004	2005	2006
	Lbs ai	Lbs ai	Lbs ai
County: Butte			
Crops:			
Almond	3,490	1,346	530
Cherry	442	462	478
Peach	1,740	1,166	2,013
Prune	2,051	2,421	2,195
Walnut	2,531	708	82
Other	396	297	33
Total	10,650	6,400	5,331
County: Colusa			
Crops:			
Melon	56	0	20
Tomato	192	199	564
Walnut	0	375	178
Other	85	127	3
Total	333	701	765
County: Glenn			
Crops:			
Almond	7,745	3,370	912
Prune	1,328	2,496	2,339
Walnut	555	522	1,090
Other	71	59	33
Total	9,699	6,447	4,374
County: Sacramento			
Crops:			
Apple	56	235	103
Cherry	42	83	415
Pear	2,948	478	251
Tomato	686	0	0
Other	453	22	14
Total	4,185	818	783
County: Shasta			
Crops:			
Apple	2	11	8
Stone Fruit	7	12	0
Walnut	52	0	0
Other	40	5	50
Total	101	28	58

Year	2004	2005	2006
County: Sutter			
Crops:			
Almond	244	6	6
Melon	20	9	22
Peach	8,306	5,186	10,124
Prune	3,731	5,160	8,108
Tomato	1,931	1,918	2,039
Walnut	1,706	1740	1,275
Other	127	123	42
Total	16,065	14,142	21,616
County: Tehama			
Crops:			
Almond	1,045	495	516
Prune	2,253	2,414	2,597
Walnut	344	16	671
Other	43	40	24
Total	3,685	2,965	3,808
County: Yolo			
Crops:			
Apple	99	68	183
Melon	24	46	50
Prune	480	570	751
Tomato	1,758	1,900	905
Walnut	427	372	499
Other	309	223	8
Total	3,097	3,179	2,396
County: Yuba			
Crops:			
Almond	229	0	690
Apple	29	10	4
Cherry	12	108	239
Peach/Nect.	2,925	2,530	2,569
Prune/Plum	3,213	2,236	907
Walnut	248	693	723
Other	90	401	10
Total	6,746	5,978	5,142
Total Diazinon for all years	54,561	40,658	44,276