US EPA ARCHIVE DOCUMENT

NCJ

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Sent to Rea to Ve
Sent to Pat W. 10/13/71

Evaluation of data for 0,0-Dimethyl S-[3-mercaptomethyl-1,2,3-benzotriazin-4(3H)-one] phosphorodithioate (Guthion)
submitted by Chemagro Corp
June 15, 1971

I Introduction

1. Registration involved are:

Guthion	50% WP	3125-193
"	2S	" -123
"	Citrus 62.5%	" -260
"	25% WP	" -25
"	LC	" -102

2. Crops involved are citrus.
Citrus has a tolerance of 2 ppm on fruit and 5 ppm on pulp.

3. Registered.
1 app. .375 lbs A/100 gal (2000 gal max) 7 day PHI
2 app. " " " " " ") 28 day PHI
Chemagro wishes to add 3 more app. (TOTAL of 5)
90 days between each app
Fla. Citrus PHI 7 days
Texas. Grapefruit PHI 28 days

Do not prune within 7 days after application

0.375 lbs A/100 gal (7.5 lbs A/2000 gal)

II Discussion of data

1. It should be noted that spray in 100 gal/A left higher residues than in 500 gal/A. There is no way to tell if this is an application.

2. Label proposes use in up to 2000 gal/A ~~and~~ which is ~~0.75~~ 7.5 lbs A/2000 gal. Data are insufficient to support 2000 gal/A. One sample in orange at 2800 gal/A high residue 1.94 ppm at 7 day. At 2400 gal/A on grapefruit had residues of 0.86 ppm at 7 days

3. Note that residues on whole fruit appear to be getting higher after 7 to 14 days than decrease after 14 days from treatment. This is odd but showed up in almost all samples

4. Some of the data submitted are listed.

	lbs A/ 100 gal	No. of gal/app.	No of App	PHI	Net Residues PPM Peel	Pulp	Whole Fruit
Oranges	.375	500	5	7	1.02	.01	.29
	"	390	5	7	1.31	.02	.41
	"	100	5	7	3.69	.15	1.35
	"	100	5	7	.96	.02	.18
	"	"	"	14	—	—	2.70
	"	2,800	5	7	—	—	1.94
	"	100	5	7	5.04	.40	1.45
Grapefruit							
	.375	2,400	5	7	3.2	.03	.86
	"	500	5	7	.19	.01	.17
	"	390	5	7	.82	.01	.42
	"	100	5	7	4.54	.03	1.21
	"	100	5	7	7.48	.03	1.72
				14	—	—	2.09
				21	—	—	2.46
				28	—	—	1.64
Lemons							
	.375	500	5	7	1.22	.09	.55
		390	5	7	1.64	.02	.60
		100	5	7	1.01	.51	.68
				14	—	—	1.92

Data are ~~are~~ not adequate to support proposed change in use pattern

III. Conclusion

1. Data are insufficient to support 0.355 lbs A.I./100 gal & the maximum of 7.5 lbs A.I./2000 gal/A.

2. We need ~~need~~ this an explanation on why residues in whole fruit appear to be increasing between 7 and 21 day after application.

3. We ~~also would~~ need like an explanation on why residues from .375 lbs A.I./100 gal/A were higher than those of 1.875 lbs A.I./500 gal/A.

4. If air ~~application~~ are intended we need data from air application.

5. 70-15 data are inadequate. We need all answers to 70-15. Data should include analysis for the compounds other than Guthion and its oxygen analog.

(1) We need a soil leaching study. Analysis of soil at depths of 0-3, 3-6, 6-9 and 9-12 inches and water eluted through columns.

~~(2) We need a photodegradation study in water.~~

(2) We need silt or soil particles analysis of particles carried off in runoff water.

~~(3) We need a fish residue study~~

(3) We need results answers to 2 (a), (b), (d) and 5 in PR Notice 70-15

(4) A fish residue study is needed.

(5) A material balance study in soil is needed.

IV Recommendation

1. We should object to change in use pattern. See conclusion

2. NOTE: We should route this change in use pattern and new data to PTD. The new data does not agree with the old data in PP No. 3E5. Residue are higher than the ~~tole~~ established tolerance after the 7 Day PHI.

3. 70-15 data inadequate