

US EPA ARCHIVE DOCUMENT

REney:rjt
10/27/67

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Evaluation of Pesticide Petition No. 8F0653
for O,O-Diethyl S-[4-oxo-1,2,3-benzotriazine-3
(4H)-ylmethyl] phosphorodithioate (Ethyl Guthion)
Submitted by Chemagro Corporation
Filed October 13, 1967

INTRODUCTION

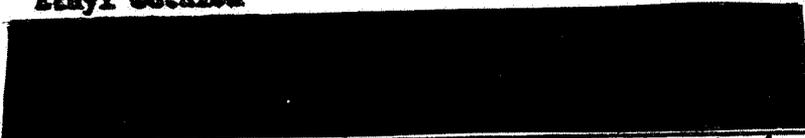
The chemical structure is as follows for Ethyl Guthion



The name and formulation of the product is:

Guthion M-E Spray Concentrate

Guthion 11%
Ethyl Guthion 11%



1.0 lbs. A Guthion + 1.0 lbs. A ethyl Guthion/gallon

Chemagro is proposing the following:

INERT INGREDIENT INFORMATION IS NOT INCLUDED

Crop	Tolerance
Cottontseed	0.1 ppm
Potatoes	0.1 ppm
Soybeans	0.02 ppm

Cottontseed and potatoes have been registered NR use. Soybeans has not been registered with Ethyl Guthion, but has with Guthion Summary pages 312.

Guthion is said to be non-systemic, but is cholinesterase inhibitor. It would appear that Ethyl Guthion would be the same as Guthion.

DIRECTIONS FOR USE

Cotton - For early control of bollworm and pink bollworm use 2 to 3 pt/A (0.365 MG + 0.365 EG lbs.A/A) and for mid-to-late season use 3 to 4 pts./A (.5 MG + 5 EG lbs.A/A) repeat as necessary. Do not apply within 21 days of picking. Cotton receiving late season applications should not be pastured and gin trash from this cotton should not be fed.

Soybeans - Apply 2 pt/A (0.25 MG + 0.25 EG lbs.A/A). Do not apply within 21 days of harvest. Do not graze or feed treated vines to livestock.

Potatoes - 1 1/2 to 3 pts/A (0.365 MG + 0.365 EG lbs.A/A) Repeat as necessary. Do not apply within 14 days of harvest.

ANALYTICAL METHOD

Soybeans - by thermionic Emission Flame Gas Chromatography. The two homologs are distinguished by different retention times. The first peak is Methyl Guthion and the second is Ethyl Guthion. Extract finely ground soybeans (200 gms) with 400 ml Skellysolve B and filter collecting 200 ml. (1/2 samples size). Add 200 ml. acetonitrile to filtrate and shake. Drain into a separate container 100 ml. Skellysolve B, shake and drain into round bottom flask. Repeat and then evaporate acetonitrile extracts to near dryness. Cleanup on an alumina column. Elute and evaporate to just dryness. Dissolve the residue in 2 ml. acetone for injection. Sensitivity is about 0.005 ppm. Background does not appear to have any interference.

Colorimetric method - Previously evaluated and approved. Method does not distinguish between M & E Guthion but determines them together. This method is non-specific for the homologues.

DISCUSSION OF DATA

Soybeans - GC method. Some of the data submitted is listed:

Dosage lbs.A/A	No. of Applic.	PHI	Methyl Guthion	Ethyl Guthion
0.5	3	14	ND	ND
"	"	"	0.013	0.015
"	"	"	0.005	ND
"	"	"	ND	ND

Dosage lbs.A/A	No. of Applic.	PHI	Methyl Guthion	Ethyl Guthion
0.5	3	14	0.013	0.10
"	"	"	ND	0.011

This is not a registered use on E. Guthion.

Cottonseed and Potatoes - Colorimetric method used to determine total homologues. Cottonseed and potatoes analysis data was in M Guthion NR file.

Some of the data submitted on cotton is listed.

Dosage lbs. A/A	No. of Applic.	PHI	Total of homologues ppm			
			Cottonseed	Hull	Meal	Oil
1	12	14	ND	ND	ND	ND
1	"	"	"	"	"	"
1	8	"	"	0.15	"	"

Some of the data submitted on potatoes is listed:

Dosage lbs.A/A	No. of Applic.	PHI	Total homologues	
			PPM	No. of Samples
0.75	8	7	ND	5
0.75	8	9	"	1

Cotton and potatoes are registered uses.

Half life in soils appears to be around 100 days.

Appears to be stable when stored at freezing temperatures.

RECOMMENDATION

A favorable opinion is given to cotton, potatoes and soybeans. Note that the proposed tolerance for Ethyl is 0.02 ppm for soybeans in this petition and 0.1 ppm for Methyl in P.P. No. 7F0539. Methods of analysis were difficult.