

SPECIAL REPORT 72-03 W

Results of Laboratory Tests with Additional Candidate  
Bait Toxicants Against the Imported Fire Ant

Daniel P. Wojcik, W. A. Banks, J. K. Plumley  
and C. S. Lofgren

Prepared by the  
Insects Affecting Man and Animals Research Laboratory  
Gainesville, Florida

Agricultural Research Service  
United States Department of Agriculture

September 1972

10-1985

ERRATA

SPECIAL REPORT NO. 72-03 W

Item 98 should be changed to read WRAIR AC-20627.

Item 545 should be changed to read WRAIR AF-52562.

Item 548 should be changed to read ENF No. 80207.

Results of Laboratory Tests with Additional Candidate  
Bait Toxicants Against the Imported Fire Ant

Daniel P. Wojcik, W. A. Banks, J. K. Plumley  
and C. S. Lofgren

A screening program was initiated in 1970 to evaluate various candidate chemicals as potential replacements for mirex in baits for control of the imported fire ant, *Solenopsis saevissima richteri* Forel. Lofgren *et al.*, 1967, described screening techniques for toxicants and reported results of laboratory tests with 334 compounds. These techniques were modified by Wojcik *et al.* (in press) in 1970 for the present screening.

The following classification system designed by Lofgren *et al.* (1967) was used to rate the chemicals. Delayed toxicity was defined as less than 15% mortality after 24 hours and more than 89% mortality at the end of the test period.

Class I.---Compounds that gave insufficient kill at the preliminary test concentrations (less than 90 percent kill at the end of the test period).

Class

- Ia --- Maximum kill 0 to 29 percent.
- Ib --- Maximum kill 30 to 59 percent.
- Ic --- Maximum kill 60 to 89 percent.

Class II.--Compounds that killed too fast at the higher concentrations but gave insufficient kill at the lower concentrations; that is, 15 percent or more kill after 24 hours and 90 to 100 percent at the end of the test period at the higher concentrations but less than 90 percent kill with the lower concentrations at the end of the test period.

Class

- IIa -- Produced fast kill at 1.0 percent.
- IIb --- Produced fast kill at 0.1 and 1.0 percent.
- IIc --- Produced fast kill at 0.01, 0.1, and 1.0 percent.

Class III.---Compounds that showed delayed action over a onefold to ninefold dosage range.

Class

- IIIa -- Delayed action occurred between 0.25 to 1 percent.
- IIIb --- Delayed action occurred between 0.025 to 0.1 percent.
- IIIc --- Delayed action occurred between 0.0025 to 0.01 percent.

Class IV.---Compounds that showed delayed action over a tenfold to ninety-ninefold dosage range.

Class V.---Compounds that showed delayed action over a hundredfold or greater dosage range.

#### Results

The toxicants tested are listed in Table 1. This table includes 57 chemicals (footnote 5, Table 1) evaluated by Lofgren *et al.* (1967) but excluded from that report because the chemical identity had not been released at the time the paper was published. The mortality class is shown for each compound.

A total of 590 chemicals were evaluated. The number in each class was as follows: Ia, 177; Ib, 134; Ic, 96; IIa, 45; IIb, 58; IIc, 4; IIIa, 26; IIIb, 26; IIIc, 22; IV, 2; and V, 0.

Table 1.--Toxicity of 590 compounds in baits to imported fire ants.

(R) indicates a registered trademark

Item no.	Entomology no. (Ent-)	Chemical name	Other designations <sup>a/</sup>	Mortality class
1 24738		Acetaldehyde, allyl 2-ethylhexyl acetal		Tb
2 30746		Acetaldehyde, 3-[2-bromo-4,5-(methylenedioxy)phenyl]-2-methylpropyl isobutyl acetal		Tb
3 30277-X		Acetaldehyde, 2-(2-butoxyethoxy)ethyl butyl acetal (crude)		Tb
4 20870		Acetaldehyde, 2-butoxyethyl 3,4-(methylenedioxy)phenyl acetal		Ia
5 30100		Acetaldehyde, 2-(2-ethoxyethoxy)ethyl 3-[3,4-(methylenedioxy)phenyl]propyl acetal		Ic
6 24734		Acetaldehyde, ethyl 1-methylheptyl acetal		Ic
7 7706		Acetamide, $\alpha$ -(benzyloxy-N-dodecyl)-	b/ Ia	ω
8 23927		Acetamide, N-ethyl-2,2-trifluoro-N-(9-oxofluoren-2-yl)-		IIIa
9 26432		Acetamide, N,N'-hexamethylenebis[2,2-dichloro-N-ethyl-		Ia
10 19915		Acetamide, N-(3-isopropoxypropyl)-		Ia
11 32818		Acetanilide, 4'-(hexahydro-1H-azepin-1-yl)sulfonyl]-		Tb
12 23561		Acetanilide, 2,2',5'-trichloro-	c/ Tb	
13 32239		Acetic acid, bromo-, trans-1,2-cyclopentylene ester		Tb
14 32089		Acetic acid, bromo-, 5-norbornen-2-ylmethyl ester		Ic
15 32781		Acetic acid, bromo-, 1,3,3-norbornyl ester		Tb
16 23389		Acetic acid, chloro-, 2,6-dibromo-5- <i>tert</i> -butyl-phenyl ester		Ic
17 30386		Acetic acid, chloro-, 2,4-dimethylbenzyl ester		Ia
18 32207		Acetic acid, chloro-, (4,4-dimethyl- <i>m</i> -dioxen-5-yl)methyl ester		Ib
19 31387		Acetic acid, chloro-, [2,2-dimethyl-3-(2-methylpropenyl)-chloromethyl]acetate		Ia
				Tb

Table 1.—Continued.

Item no.	Entomology no. (Ent-)	Chemical name	Other designations <sup>a</sup>	Mortality class
20	32668	Acetic acid, chloro-, 3,7-dimethyl-2,6-octadienyl ester, (E).		Ia
	23374	Acetic acid, chloro-, 2-methoxy-4-propenylphenyl ester		Ia
22	30589	Acetic acid, chloro-, nonyl ester		Ic
23	32088	Acetic acid, chloro-, 5-norbornen-2-ylmethyl ester		Ia
24	32724	Acetic acid, chloro-, 1,3,3-trimethyl-2-norbornyl ester		Ia
25	32187	Acetic acid, (p-chlorophenoxy)-, 5-norbornen-2-ylmethyl ester		Ib
26	19051	Acetic acid, cyanomesityl-		IIIa
27	32551	Acetic acid, dichloro-, o-chlorophenyl ester		Ic
28	19298	Acetic acid, dichlorothiocyanato-, 2-bornyl ester		Ia
29	27509	Acetic acid, mercapto-, 2,2-dimethylhydrazide S-ester with O-ethyl ethylphosphordithioate	Stauffer R-15552	IIb
30	27386	Acetic acid, mercaptophenyl-, ethyl ester, S-ester with O,O-dimethyl phosphordithioate	Cidial <sup>R</sup> Dime-phenoate	IIIc
31	19522	Acetic acid, (pentachlorophenoxy)-, ethyl ester		Ib
32	19521	Acetic acid, (2,3,4,6-tetrachlorophenoxy)-, ethyl ester		Ib
33	32665	Acetic acid, trichloro-, 2-cyclohexyloxyclohexyl ester		Ia
34	27411	Acetimidic acid, N-(carbamoyloxy)thio-, methyl ester	DuPont I .1642	c/ IIb
35	27553	Acetimidic acid, N-[ (methylcarbamoyl)oxy]-, ethyl ester	Shell SD 15289	IIb
36	27341	Acetimidic acid, N-[ (methylcarbamoyl)oxy]thio-, methyl ester	Methomyl	Ic
37	25436	2'-Acetonaphrone, 3'-ethyl-5',6',7',8'-tetrahydro-5',5',8',8'-tetramethyl-		Ib
38	22035	Acetophenone, 2-bromo-4'-phenyl-		Ia
39	16708	m-Aacetotoluidide, 2-(2,4-dichlorophenoxy)-a,a,a-trifluoro-	c/ Ia	

Table 1.--Continued.

Item no.	no. (Ent.)	Chemical name	Other designations <sup>a,b</sup>	Mortality class
40	16926	<i>m</i> -Acetotoluuidide, 2,2,2-trichloro- $\alpha,\alpha,\alpha$ -trifluoro-		Ib
41	17607	<i>O</i> -Acetotoluuidide, 5'-chloro-	c/Ib	
42	26034	Acrylanilide, 3',4'-dichloro-2-methyl-		IIIa
43	26532	Acrylic acid, 5-norbornen-2-ylmethyl ester		Ia
44	22668	Ammonium, [4-[ $\alpha$ -( <i>o</i> -chlorophenyl)- <i>p</i> -(dimethylamino)-benzylidene]-2,5-cyclohexadien-1-yllicene]dimethyl chloride		Ib
45	17149	Anisic acid, pentachlorophenyl ester		Ib
46	31389	<i>p</i> -Anisic acid, [2,2-dimethyl-3-(2-methylpropenyl)-cyclopropyl]methyl ester		Ia
47	30660	<i>p</i> -Anisic acid, 2-propynyl ester		Ib
48	30035	<i>p</i> -Anisic acid, 3-allyl-, methyl ester		Ib
49	9159	Anisole, 4,6-dichloro-2-cyclohexyl-		Ib
50	16445	Anthraquinone, 1-amino-2,4-dibromo-		Ib
51	30296	Benzaldehyde, <i>o</i> -(allylcry)-, diethyl acetal		Ib
52	22266	Benzaldehyde, 3,4-dichloro-, <i>o</i> -(3,4-dichlorobenzyl)oxime		Ic
53	19307	Benzaldehyde, 2,5-dimethoxy-		Ia
54	23801	Benzamide, 2-(allylcry)-5-bromo- <i>N</i> , <i>N</i> -dimethyl-		Ia
55	15492	Benzamide, <i>N</i> -benzyl-2,4-dichloro-	c/Ia	
56	19703	Benzamide, <i>p</i> -ethoxy- <i>N</i> , <i>N</i> -dimethyl-		Ia
57	19088	Benzamide, <i>o</i> -ethoxy- <i>N</i> -propyl-		Ia
58	30180	Benzamide, <i>p</i> -isopropyl- <i>N</i> , <i>N</i> -dimethyl-		Ib
59	15506	Benzanilide, 2'-bromo-2,4-dichloro-		Ia
60	31535	Benzene, 1-bromo-2-[2-bromo-1-[2-(2-butoxethoxy)ethoxy]-propyl]-4,5-(methylenedioxy)-		Ia

Table 1.--Continued.

Entomology :		Chemical name	Other designations <sup>a</sup> /	Mortality class
Item no.	(Ent.)			
61	31290	Benzene, 1-bromo-2-chloro-		Ia
62	19504	Benzene, 1,2-dichloro-4,5-dinitro-		Ia
63	19330	Benzene, 1,4-dimethoxy-2-propenyl		Ia
64	30043	Benzene, 4-[3-( <i>p</i> -methoxyphenyl)propyl]-1,2-(methylenedioxy)-		Ia
65	18219	Benzene, 1,2,3,5-tetrachloro-		Ib
66	23025	Benzene, 1,2,3,4-tetrachloro-5-nitro-		Ia
67	22329	Benzene, 1,2,4,5-tetrachloro-3-nitro-		Ia
68	18131	Benzene, 1,2,4-tribromo-		Ia
69	27438	1-Benzimidazolecarboxylic acid, 5,6-dichloro-2-(trifluoromethyl)-, phenyl ester	Fisons NC 5016	IIIb
70	23006	Benzofurazan, 5-methyl-4-nitro-, 3-oxide		Ia
71	32398	Benzoic acid, <i>m</i> -bromo-, <i>o</i> -cumenyl ester		Ia
72	31042	Benzoic acid, <i>o</i> -chloro-, 6-bromo- <i>o</i> -(1-bromoethyl)=piperonyl ester		Ic
73	27787	Benzoic acid, <i>o</i> -chloro-, 5-chloro-2-(dimethylamino)- <i>o</i> -phenylbenzyl ester	Velsicol RCS-1822	Ic
74	31040	Benzoic acid, <i>p</i> -chloro-, 6-bromo- <i>o</i> -(1-bromoethyl)=piperonyl ester		Ia
75	22418	Benzoic acid, 3,4-dichloro-, methyl ester		Ia
76	19075	Benzoic acid, <i>o</i> -ethoxy-, 2,2,2-trichloroethyl ester		Ia
77	19443	Benzoic acid, <i>o</i> -ethoxy-, 2,4,5-trichlorophenyl ester		Ia
78	30144	Benzoic acid, <i>o</i> -(2-hydroxy-4,4-dimethyl-6-oxo-1-cyclohexen-1-yl)- <i>o</i> -lactone		Ib
79	30147	Benzoic acid, <i>p</i> -isopropyl-, propyl ester		Ib

Table 1.--Continued.

Item no.	Entomology no. (Ent.)	Chemical name	Other designations/ WRAIR AC-18636 e/ IB	Mortality class
80 27126	2H-1-Benzopyran-3-acetic acid, 7-hydroxy-4-methyl-2-oxo-, ethyl ester, O-ester with O,O-diethyl phosphoro-thioate			IIIc
81 27124	2H-1-Benzopyran-3-acetic acid, 7-hydroxy-4-methyl-2-oxo-, methyl ester, O-ester with O,O-diethyl phosphoro-thioate	d/ WRAIR AC-18636	Ia	
82 80041	Benzothiazolium, 3-methyl-2-(methylthio)-...-iodide		e/ Ia	
83 19308	Benzyl alcohol, α-ethyl-α-methoxy		e/ Ib	
84 27051-X	Bicyclopentadienyl, decachloro-(isomers)	Hooker HB-5	e/ Ib	
85 27052	Bi-2-cyclopenten-1-yl, tetradecachloro-	Hooker HB-6	e/ Ib	
86 19148	Biphenyl, 4,4'-difluoro-.		Ia	
87 8082	Biphenyl, hexabromo-.	Hooker HRS-2062	Ia	
88 27446	3-Biphenylcarboxanilide, 2",5-dichloro-2-hydroxy-4"-nitro-	Monsanto CP 43057	IIb	
89 27137	3-Biphenylcarboxanilide, 2",4",5, 5"-tetrachloro-2-hydroxy-	Monsanto CP-42527	e/ IIIb	
90 27135	3-Biphenylcarboxanilide, 2",5,5"-trichloro-2-hydroxy-	Monsanto CP-42320	IIa	
91 27139	3-Biphenylcarboxanilide, 4",4",5-trichloro-2-hydroxy-	Monsanto CP-43858	e/ IIIb	
92 27349	3-Biphenylcarboxy-o-toluidide, 4",5-dichloro-4"-fluoro-2-hydroxy-.	Monsanto CP 48985	IIIb	
93 19932	m,o'-Bitolyl		Ic	
94 2406	Boric acid		f/ Ic	
95 3825	Butane, 1,1,1,2,2,3,3-heptachloro-4,4-bis(p-chlorophenyl)...		Ia	
96 19832	Butane, 1,1,2,3,4-tetrabromo-		Ia	
97 80037	1,4-Butanediamine, N,N-diethyl-N'-methyl-N'-phenyl-	WRAIR AC-17219	Ib	
98 80049	2,3-Butanediol, cyclic sulfate	WRAIR AC-20267	Ib	

Table 1.—Continued.

Item no.	Ent. no.	Entomology :	Chemical name	Other designations/	Mortality class
99	31295	1,3-Butanedione, 4,4,4-trifluoro-1-(2-thienyl)-			Ia
100	30903	2-Butanol, 3,4-dibromo-2-methyl-, acetate			Ic
101	25084	3-Buten-2-ol, 4-(2,6,6-trimethyl-1-cyclohexen-1-yl)-			Ia
102	16295	Butyraldehyde, 2,4-dinitrophenylhydrazone			Ib
103	30906	Butyric acid, 2,3-dibromo-1,1-dimethylpropyl ester			Ic
104	18410	Butyric acid, 3,5-dichloro-2-biphenyl ester			Ia
105	18346	Butyric acid, 2,4-dichlorophenyl ester			Ia
106	32206	Butyric acid, (4,4-dimethyl- <i>m</i> -dioxan-5-yl)methyl ester			Ia
107	18348	Butyric acid, 2,4,5-trichlorophenyl ester			Ia
108	23175	Butyric acid, 2-bromo-, cyclopentyl ester			Ia
109	30241	Butyric acid, 2-ethyl-, 2-(2-butoxyethoxy)ethyl ester			Ib
110	27211	Butyric acid, 4-hydroxy-2-mercaptop-, <i>g</i> -lactone, <i>S</i> -ester with <i>O,O</i> -diethyl phosphorodithioate	Allied GC-9879		IIIb
111	27333	Butyric acid, 4-hydroxy-2-mercaptop-, <i>g</i> -lactone, <i>S</i> -ester with <i>O,O</i> -diethyl phosphorothioate	Allied ACD-10101		Ib
112	22787	Butyrophene, 4,4,4,4'-tetrachloro-3-hydroxy-			Ia
113	26808-X	Calcofluor white LVZ concentrate		e/	IIIa
114	26809-X	Calcofluor white RWP concentrate		e/	IIIa
115	26301-X	Calcofluor yellow		e/	Ic
116	26810-X	Calcofluor yellow 6G		e/	IIIb
117	25660	Carbamic acid, 2-mercaptoethyl ester, <i>S</i> -ester with <i>O,O</i> -dimethyl phosphorodithioate		f/	Ia
118	27046	Carbamic acid, 2-[mercaptomethyl]thiethyl ester, <i>S</i> -ester with <i>O-isopropyl O-methyl phosphorodithioate</i>	Stauffer R-6395	b/	IIIa
119	27264	Carbamic acid, acetyl methyl-, <i>m-tert-butylphenyl</i> ester	Upjohn U-24157	e/	Ic

Table 1.--Continued.

Item no. (Ent.)	Chemical name	Other designations <sup>a</sup> /	Mortality class
120 27262	Carbamic acid, acetyl methyl-, 6-chloro-3,4-xylyl ester	Upjohn U-12379	e/ Tb
121 27468	Carbamic acid, acetyl methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	Bay 78537	IIb
122 27263	Carbamic acid, acetyl methyl-, 4-(dimethylamino)-3,5-xylyl ester	Upjohn U-20493	e/ Ia
123 27334	Carbamic acid, (chloroacetyl)methyl-, <i>m</i> -cumenyl ester	Hercules 9007	IIIb
124 27456	Carbamic acid, (chloroacetyl)methyl-, <i>m</i> -tolyl ester	Hercules 16805	IIa
125 22676	Carbamic acid, (2-chloroethyl)-, dodecyl ester		Ia
126 27705-X	Carbamic acid, [( <i>p</i> -chlorophenyl)thio]methyl-, <i>m</i> -sec-butyl-phenyl ester (approximately 58%), mixture with <i>p</i> - and <i>o</i> -isomers (29% and 5%, respectively)	Chevron Ortho <sup>b</sup> RE-11776	Ic
127 27459	Carbamic acid, (dichloroacetyl)methyl-, <i>m</i> -tert-butylphenyl ester	Hercules 17645	Ia
128 27772	Carbamic acid, (3,6-dichloro- <i>o</i> -anisoyl)methoxy-, ethyl ester	Velsicol RCS-1633	Ia
129 32900	Carbamic acid, diethyl-, 1,3,3-trimethyl-2-norbornyl ester		Ia
130 27624	Carbamic acid, dimethyl-, <i>o</i> -1,3-dithiolan-2-ylphenyl ester	CIBA C-13963	IIa
131 27706	Carbamic acid, (mercaptoacetyl)methyl-, <i>p</i> -tert-butylphenyl ester, <i>S</i> -ester with <i>O,O</i> -dimethyl phosphorodithioate	Hercules 18676	IIIc
132 27348	Carbamic acid, (mercaptoacetyl)methyl-, <i>m</i> -cumenyl ester, <i>S</i> -ester with <i>O,O</i> -dimethyl phosphorodithioate	Hercules 14469	IIIc
133 27362	Carbamic acid, methyl-, 1,4-benzodioxan-5-yl ester	Stauffer R-11163	e/ Tb
134 27382	Carbamic acid, methyl-, 4-chloro-2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	Niagara NIA-10559	Ic
135 27649	Carbamic acid, methyl-, 2-chloro- <i>m</i> -tolyl ester	IMC 48003	Ic
136 27300	Carbamic acid, methyl-, <i>m</i> -cym-5-yl ester	PROMECARB, Carbaryl <sup>c</sup>	IIa

Table 1.—Continued.

Entomology :		Chemical name		Other designations <sup>a</sup> / : class		Mortality
Item no.	(Ent.)					
137	27324	Carbamic acid, methyl-, 2,3-dihydro-2-methyl-7-benzofuranyl ester		Bay G-2853	c/ IIIa	
138	27305	Carbamic acid, methyl-, 4-[(dimethylamino)methylene]-amino] <i>m</i> -tolyl ester		Union Carbide UC-25074	f/ Ib	
139	27385	Carbamic acid, methyl-, 2,2-dimethyl-8-chromanyl ester		Niagara NIA-11637	c/ IIa	H
140	27410	Carbamic acid, methyl-, O-(4,5-dimethyl-1,3-dioxolan-2-yl)phenyl ester		CIBA C-10015	Ic	
141	27389	Carbamic acid, methyl-, O-1,3-dioxolan-2-ylphenyl ester		DuPont Ins. 1519	IIa	
142	27388	Carbamic acid, methyl-, O-1,3-dithiolan-2-ylphenyl ester		DuPont Ins. 1804	c/ IIb	
143	27392	Carbamic acid, methyl-, ester with methyl-4-hydroxy-2,6-dimethylcarbanilate		Union Carbide UC-30044	Ia	
144	27397	Carbamic acid, methyl-, ester with ( <i>p</i> -hydroxyphenyl)-acetonitrile		Stauffer R-11782	c/ IIb	
145	27393	Carbamic acid, methyl-, ester with methyl 4-hydroxy-2-isopropylcarbanilate		Union Carbide UC-30045	IIb	
146	25671	Carbamic acid, methyl-, O-isopropoxyphenyl ester		Baygon <sup>R</sup> , Propoxur	Ic	
147	27695	Carbamic acid, methyl-, 2,3-(isopropylidenedioxy)phenyl ester		Fisons NC 6897	Ic	
148	25659	Carbamic acid, methyl-, 2-mercaptoethyl ester, S-ester with O-diethyl phosphorodithioate		Stauffer R-2965	IIIa	
149	27047	Carbamic acid, methyl-, 2-(mercaptopethyl)thioethyl ester, S-ester with O-isopropyl O-methyl phosphorodithioate		Stauffer R-6482	IIa	
150	27384	Carbamic acid, methyl-, 7-methylbenzo[ <i>b</i> ]thien-4-yl ester		Mobil MC-1175	IIa	
151	27564	Carbamic acid, methyl-, O-(4-methyl-1,3-dioxolan-2-yl)-phenyl ester		CIBA G-9643	IIa	
152	27557	Carbamic acid, methyl-, 2-methyl-8-quinolyl ester, sulfate		CIBA C-11753	f/ Ib	

Table 1.--Continued.

Entomology :		Chemical name	Other designations /	Mortality class
Item no.	(Ent.)			
153	25843	Carbamic acid, methyl-, 3,4,5-trimethylphenyl ester]	Landrinf <sup>R</sup>	IIb
154	27704-X	Carbamic acid, methyl(phenylthio)-, <i>h</i> - <i>sec</i> -butylphenyl ester (approximately 50%), mixture with <i>p</i> -and <i>o</i> -isomers (29% and 5%, respectively)	Chevron Ortho <sup>R</sup> RE-11775	Ib
155	27458	Carbamic acid, methyl(trichloroacetyl)-, <i>m</i> - <i>tert</i> -butyl= phenyl ester	Hercules 17643	Ia
156	27454	Carbamic acid, methyl(trichloroacetyl)-, <i>m</i> -cumenyl ester	Hercules 2413	IIIb
157	27573	Carbamic acid, thio-, <i>S,S'</i> -2-(dimethylamino)trimethylene ester, hydrochloride	Cartap	b/ IIIb
158	22675	Carbamic acid, (2,2,3-trichloro-1-hydroxybutyl)-, butyl ester		Ic
159	22240	Carbanilic acid, 2,4-dichloro-, isopropyl ester		Ia
160	22847	Carbanilic acid, 2,5-dichloro-, 2-chloroethyl ester		Ia
161	23770	Carbanilic acid, 2,5-dichloro-, 2-propynyl ester		Ia
162	19368	Carbonic acid, allyl <i>p</i> -chlorophenyl ester		Ia
163	16380	Carbonic acid, isopropyl pentachlorophenyl ester		Ia
164	18045	Carbonic acid, isopropyl tetrachlorophenyl ester		Ib
165	20472	Cinnamic acid, <i>o</i> -isopropoxy-, ester with 2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one		Ib
166	80143	Copper, bis(1,1,1,5,5-hexafluoro-2,4-pentanedionato)- dihydrate	WEAIR AD-42100	Ic
167	23192	Coumarin, 5,7-dihydroxy-4-methyl-		Ic
168	8086	Coumarin, 7-ethoxy-4-methyl-		Ib
169	18222	Coumarin, 6-methoxy-4-methyl-	c/Ia	Ib
170	19513	Cresol, 2-chloro- <i>a</i> -phenyl-		Ib
171	19042	<i>m</i> -Cresol, 5-ethyl-2,4-dinitro-		Ia

Table 1.--Continued.

Entomology :					
Item no.	no. (Ent.)			Chemical name	Other designations <sup>a/</sup>
					Mortality class
172	26208	<i>m</i> -Cresol, $\alpha,\alpha,\alpha$ -trifluoro- $\beta$ -nitro-			Ia
173	19283	<i>o</i> -Cresol, 4,6-dinitro-, compound with methylamine			b/ Ic
174	19282	<i>o</i> -Cresol, 4,6-dinitro-, compound with morpholine			b/ Ic
175	19911	Crotonic acid, 2-(2-methoxyethoxy)ethyl ester			Ib
176	24727	Crotonic acid, 2-(1-methylheptyl)-4,6-dinitrophenyl ester			Ia
177	6274	Crotonic acid, pentamethylene ester			Ia
178	27483	Crotonic acid, 3-hydroxy-, $\alpha$ -methyl- $p$ -(methylsulfonyl)=benzyl ester, dimethyl phosphate		Shell SD 15465	IIIB
179	27451	Crotonic acid, 3-hydroxy-, $\alpha$ -methyl- $p$ -(methylthio)=benzyl ester, dimethyl phosphate		Shell SD-14045	IIIB
180	27429	Crotonic acid, thio-, S-phenyl ester		Pennvalt TD-5063	IIIA
181	22785	Crotonophenone, 4,4,4,4'-tetrachloro-			Ia
182	22786	Crotonophenone, 4,4,4-trichloro-			Ia
183	19192	Cyclobutaneacetic acid, 3-acetyl-2,2-dimethyl-, hexyl ester			Ia
184	19193	Cyclobutaneacetic acid, 3-carboxy-2,2-dimethyl-			Ic
185	19194	Cyclobutaneacetic acid, 3-carboxy-2,2-dimethyl-, dihexyl ester			Ic
186	80020	1,2-Cyclobutanedicarboxylic acid, 1-cyano-, diethyl ester		MRAIR AB-99878	Ib
187	32404	1,3-Cyclobutanediol, 2,2,4,4-tetramethyl-, diacetate			Ia
188	32410	1,3-Cyclobutanediol, 2,2,4,4-tetramethyl-, diformate			Ia
189	32407	1,3-Cyclobutanediol, 2,2,4,4-tetramethyl-, dipropionate			Ia
190	19838	2,4-Cyclohexadiene-1-carboxylic acid, 2,4-dihydroxy-6-phenyl-, ethyl ester			Ic
191	9627	2,5-Cyclohexadien-1-one, 2,6-dichloro-4-(trichloromethyl)-4-methyl-			Ib
192	19651	Cyclohexanebutyric acid, allyl ester			Ia

Table 1.--Continued.

Item no. :	Entomology no. :	(Ent-)	Chemical name	Other designations/ class	Mortality class
193	19649		Cyclohexanebutyric acid, propyl ester		Ia
194	19660		Cyclohexanecarboxylic acid, 2-bromoethyl ester		Ia
195	19665		Cyclohexanecarboxylic acid, 1-propylbutyl ester		Ia
196	24748		1,2-Cyclohexanediol, 4-isopropenyl-1-methyl-, 2-acetate		Ia
197	19648		Cyclohexanecarboxylic acid, ethyl ester		Ia
198	30462		Cyclohexanol, 2-cyclohexyl-, formate		Ia
199	30463		Cyclohexanol, 4-cyclohexyl-, formate		Ib
200	70254		Cyclohexanol, 2,6-diethyl-		Ia
201	70256		Cyclohexanol, 2,6-diethyl-2-methyl-		Ia
202	70249		Cyclohexanol, 1,2-dimethyl-		Ib
203	70251		Cyclohexanol, 1-ethyl-2-methyl-		Ib
204	19604		Cyclohexanol, 2-methyl-, benzoate		Ia
205	70253		Cyclohexanone, 2,6-diethyl-		Ib
206	70250		Cyclohexanone, 2-ethyl-6-methyl-		Ib
207	27304		Cyclohexanone, 2-methyl-2-nitro-, 0-(methylcarbamoyl)-oxime		IIIa
208	80206		1-Cyclohexene-1-acetic acid, ethyl ester	Union Carbide UC-23746	Ia
209	19944		2-Cyclohexen-1-one, 3-butyl-	WRAIR AE-40978	Ia
210	19959		2-Cyclohexen-1-one, 3-p-toly1-		Ia
211	26696		1,3-Cyclooctadiene		Ib
212	19720		Cyclopentadiene, 1,2,3,4,5-pentachloro-5-(trichloromethyl)-		Ia
213	19919		Cyclopentanecarboxylic acid, ester with 2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one	Ic	Ib

Table 1.--Continued.

Item no. no. (Ent.)	Entomology:	Chemical name	Other designations: a/	Mortality class
214 2307	1,2-Cyclopentanediol, 3-methyl-			Ic
215 23477	1 <i>H</i> -Cyclopenta[ <i>b</i> ]quinoxaline-1,3-dicarboxylic acid, 2,3-di-hydro-, diethyl ester			a/ Ia
216 27462	1-Cyclopentene-1-carboxylic acid, 2-hydroxy--, methyl ester, Ansul AW-53782 dimethyl phosphate			IIIb
217 27049	4-Cyclopentene-1,3-dione, tetrachloro-		Hooker HB-2	e/ Ib
218 27069	2-Cyclopenten-1-one, hexachloro-		Hooker HRS-230	Ia
219 25527	3-Cyclopenten-1-one, hexachloro-			Ia
220 19921	Cyclopropanecarboxamide, <i>N,N</i> -diallyl-2,2-dimethyl-3-(2-methylpropenyl)			Ic
221 27474	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, (5-benzyl-3-furyl)methyl ester, <i>cis-trans</i> -(±)		Resmethrin	IIa
222 19006	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, 2-butoxyethyl ester			Ia
223 20413	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, <i>g</i> -butyliperonyl ester			Tb
224 31304	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, 6-chloro- <i>g</i> -ethylpiperonyl ester			Ia
225 31305	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methylpropenyl)-, 6-chloro- <i>α</i> -methylpiperonyl ester			Tb
226 19559	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, 2-(diethylamino)ethyl ester			Ib
227 20995	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, ester with 2-allyl-4-hydroxy-2-cyclopenten-1-one			Ib
228 22006	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methylpropenyl)-, ester with 2-allyl-4-hydroxy-3,4-dimethyl-2-cyclopenten-1-one			Ia

Table 1.—Continued.

Item no. no. : (Ent-)	Chemical name	Other designations <sup>a</sup> /	Mortality class
229 17510	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, ester with ( $\pm$ )-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one, <i>cis-trans</i> -( $\pm$ )-	allethrin	Ic
230 16275	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, ester with ( $\pm$ )-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one, <i>trans</i> -(+)-	<i>d-trans</i> -allethrin	Ic
231 21036	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methylpropenyl)-, ester with 2-cyclohexyl-4-hydroxy-3-methyl-2-cyclopenten-1-one		Ib
232 18394	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, ester with 2-ethyl-4-hydroxy-3-methyl-2-cyclopenten-1-one, <i>cis-trans</i> -( $\pm$ )		Tb
233 19903	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, ester with 7-hydroxy-4-methylcoumarin		Ia
234 27339	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methylpropenyl)-, ester with <i>N</i> -(hydroxymethyl)-1-cyclohexene-1,2-dicarboximide	Tetramethrin, Neo-pynamin(R)	Tb
235 19001	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl)-, 2-ethoxyethyl ester		Ia
236 30446	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl-propenyl) 1-naphthylmethyl ester		Ia
237 80139	Cyclopropanehydrylic acid, <i>B</i> -methyl-, ethyl ester	WRAIR AD-29C47	Ic
238 22492	Decanoic acid, 1,4,7-heptanetriyl ester		Ib
239 18012-X	4 $\alpha$ -Dibenzofurancarboxaldehyde, 1,4,4a,5a,6,9,9a,9b-octahydro-, chlorinated derivative		Ib
240 70259	Dicyclohexylamine, 2-methyl-		IIa
241 80343	Dicyclopentylamine		IIb
242 80218	Dihexylamine, hydrochloride	WRAIR AE-59584	II/ IIIa
243 18096	Dimethanonaphthalene, epoxypiperhydro-		Ie

Table 1.--Continued.

Item no.	(Ent.)	Chemical name	Other designations <sup>a</sup>	Mortality class
229	17510	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl=propenyl)-, ester with ( $\pm$ )-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one, <i>cis-trans</i> -( $\pm$ )-	allethrin	Ic
230	16275	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methyl=propenyl)-, ester with ( $\pm$ )-2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one, <i>trans</i> -(+)-	<i>d-trans</i> -allethrin	Ic
231	21036	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methylpropenyl)-, ester with 2-cyclohexyl-4-hydroxy-3-methyl-2-cyclopenten-1-one	Tb	Ib
232	18394	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methylpropenyl)-, ester with 2-ethyl-4-hydroxy-3-methyl-2-cyclopenten-1-one, <i>cis-trans</i> -( $\pm$ )	Tb	Ia
233	19903	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methylpropenyl)-, ester with 7-hydroxy-4-methylcoumarin	Tb	Ia
234	27339	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methylpropenyl)-, ester with N-(hydroxymethyl)-1-cyclohexene-1,2-dicarboximide	Tetramethrin, Neo-pynamir(R)	Ib
235	19001	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methylpropenyl)-, 2-ethoxyethyl ester	Tb	Ia
236	30446	Cyclopropanecarboxylic acid, 2,2-dimethyl-3-(2-methylpropenyl) 1-naphthylmethyl ester	WRAIR AD-29G47	Ia
237	80139	Cyclopropanehydrylic acid, <i>B</i> -methyl-, ethyl ester		Ic
238	22492	Decanoic acid, 1,4,7-heptanetriyl ester		Ib
239	18012-X	4 $\alpha$ -Dibenzofurancarboxaldehyde, 1,4,5a,6,9a,9b-octahydro-, chlorinated derivative		Ib
240	70259	Dicyclohexylamine, 2-methyl-		IIa
241	80343	Dicyclopentylamine		IIb
242	80218	Dihexylamine, hydrochloride		II/ IIIa
242	18096	Dimethanonaphthalene, epoxypiperhydro-		Ia

Item no.	Entomology no. (Ent-)	Chemical name	Other designations <sup>a</sup> /	Mortality class
259	32242	<i>m</i> -Dioxane, 5-methyl-2-[3,4-(methylenedioxy)phenyl]-5-propyl-		Ia
260	31528	<i>m</i> -Dioxane, 4,5,5-trimethyl-2-(6-methyl-3-cyclohexen-1-yl)-		Ia
261	32929	1,3-Dioxolane, 4-[allyloxy)methyl]-2-(3-cyclohexen-1-yl)-		Ia
262	31363	1,3-Dioxolane, 2-[2-bromo-4,5-(methyleneoxy)-phenyl]-4-methyl-		Ic
263	30383	1,3-Dioxolane, 2-p-cumenyl-4-methyl-		Ib
264	30652	1,3-Dioxolane, 2-(9-decenyl)-4,5-dimethyl-		Ic
265	30688	1,3-Dioxolane, 2-decy1-4-methyl-		Ib
266	32710	1,3-Dioxolane, 4,5-dimethyl-2-(2,6-dimethyl-1,5-heptadienyl)-		Ia
267	24762	1,3-Dioxolane, 2-(5-norbornen-2-yl)-		Ib
268	18078	1,3-Dioxolane-4-methanol, 2-( <i>p</i> -chlorophenyl)-		Ia
269	27696	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-(methylcarbamoyl)oxime	3M MBR 6168	Ib
270	27660	1,3-Dithiolane-2-carboxaldehyde, 2-methyl-, O-(methylcarbamoyl)oxire	3M MBR 5667	Ib
271	25791-X	2-Dodecanone, polychlorinated	Armour ARD-170	e/ IIIa b/ Ia
272	32823	5,8-Epoxyphthalazine-1,4-dione, 2,3-diacetyl-2,3,4a,5,8,8a-hexahydro-		b/ Ia
273	32820	5,8-Epoxyphthalazine-1,4-dione, 2,3,4a,5,8,8a-hexahydro-		Ia
274	1848	Ethane, 1-(2-chloroethoxy)-2-(2,3,4,6-tetrachlorophenoxy)-		Ib
275	14678	Ethane, 1,2-dibromo-1,1-dichloro-		IIIa
276	16266	Ethane, 1,1-dichloro-2,2-diphenyl-		Ia
277	19590	Ethanol, 2,2,2-trichloro-, benzoate		Ib
278	19189	1H-3,10 $\alpha$ -Ethenophenanthrene-1,2,8-tricarboxylic acid, 2,3,4,4a,4b,5,6,7,8,8a,9,10-dodecahydro-12-isopropyl- 4b,8-dimethyl-, 1,2-anhydride		Ic

Table 1.--Continued.

Item no. no. : (Ent.)	Entomology no. :	Chemical name	Other designations <sup>e</sup> / <u>e</u> /	Mortality class
279	17339	2-Furanacrylic acid, 5-nitro-, ethyl ester	<u>c</u> / Ia	
280	13073	Glycine, N-( <i>a,a,a</i> -trifluoro- <i>m</i> -tolyl)-3,5-heptadien-2-one, 6-methyl-	Ic	
281	25071	1-Heptanol, 2,2,3,3,4,4,5,5,6,6,7,7-dodecafluoro-	Ia	
282	23781	3-Heptanol, benzoate	Ic	
283	19592	3-Heptene-2,6-diol, 1,1,1,7,7,7-hexafluoro-4-phenyl-2,6-bis= Allied GC 9014	Ib	
284	27037	(trifluoromethyl)-	Ib	
285	26936	Hexanenitrile, 5-oxo-	<u>e</u> / Ib	
286	22467	Hexanoic acid, 3-(tetrahydro-2-furyl)-1-[2-(tetrahydro-2-furyl)ethyl]propyl ester	Std. Oil-Ohio 209260	
287	80174	1-Hexanol, 3-ethyl-	<u>H</u> Ia	
288	26896-X	Hi-Viz Fluorescent printing pigment (B-2139 lemon yellow)	WRAIR AE-01417	Ic
289	80215	Hydrocinnamide, <i>N,N</i> -diethyl-	<u>e</u> / Ib	
290	19961	Hydrocinnamic acid, <i>b</i> -ethyl- <i>b</i> -hydroxy-, ethyl ester	WRAIR AE-57651	Ib
291	24744	Hydrocoumarin, 6-methyl-	Ia	
292	24577	Imidazoline, 1,3-bis(3,5,5-trimethylhexyl)-2-(2,4,4-trimethylpentyl)..	Ia	
293	17085	Indan, dichloro-1,1,3-trimethyl-3-phenyl-	Ib	
294	80097	5-Indancarboxaldehyde, azine	Ic	
295	27058	4-Indancarboxylic acid, 2,2,3,3,5,6,7-heptachloro-1-oxo-, methyl ester	Ic <u>e</u> / Ia	
296	27057	Indene-4-carboxylic acid, 2,3,3a,4,5,6,7-heptachloro-3a,4-dihydro-1-oxo-, methyl ester	Hooker Hb-12	<u>e</u> / Ia
297	16541	Indone, hexachloro	Hooker HRS-2041	Ia

Table 1.--Continued.

: Entomology :		: Mortality :	
Item no.	no. (Ent.)	Chemical name	Other designations <sup>a</sup> / class
298	23119	Iron, dicyclopentadienyl	IIa.
299	30513	Isobutyric acid, 2,3,4,6-tetrachlorophenyl ester	Ia
300	11500	Ketone, 1-cyclohexen-1-yl phenyl	Ia
301	15928	Ketone, 2-nitro-3-phenyl-1-cyclopropyl phenyl	Ic
302	26802-X	Leucophor	e/ IIIb
303	80017	Malonic acid, (tetrahydrofuryl)-, diethyl ester	WRAIR AB-91318 Ic
304	19689	Malononitrile benzylidene-	Tb
305	27824	Malononitrile, [(H-ethyl- $\alpha$ , $\alpha$ , $\alpha'$ , $\alpha'$ -hexafluoro-3,5-xylyldino)methylene]-	Monsanto MON-856 IIb
306	15376	Metaldehyde	b/ Ia
307	26046	4,7-Methanoindan, 1,2:5,6-diepoxy-3 $\alpha$ ,4,5,6,7,7 $\alpha$ -hexahydro-, endo-	Ic
308	25604	4,7-Methanoindan, 1(or 2),4,5,6,7,8,8-heptachloro-3 $\alpha$ ,4,7,7 $\alpha$ -tetrahydro-	Velsicol 53-05-27 IIa
309	15167	4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3 $\alpha$ ,4,7,7 $\alpha$ -tetrahydro-	IIb
310	16397-X	4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3 $\alpha$ ,4,7,7 $\alpha$ -tetrahydro-(70% $\alpha$ and 25% $\beta$ isomers)	Velsicol HCS-3260 IIb
311	16397	4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3 $\alpha$ ,4,7,7 $\alpha$ -tetrahexahydro-, $\alpha$ -isomer	Alpha chlordane IIa.
312	16398	4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3 $\alpha$ ,4,7,7 $\alpha$ -tetrahexahydro-, $\beta$ isomer	Beta chlordane IIb
313	22372	4,7-Methanoindan, 1,2,4,5,6,7,8,8-octachloro-3 $\alpha$ ,4,7,7 $\alpha$ -tetrahydro-, $\lambda$ isomer	Gemma chlordane III $\lambda$
314	24622	4,7-Methanoindan, 5,5'-[oxybis(ethyleneoxy)]bis[1,2-epoxy=hexahydro-	Ic

Table 1.--Continued.

Item no.	Entomology no. (Ent-)	Chemical name	Other designations <sup>a</sup> / class	Mortality
315	16535	4,7-Methanoindan-2,3-diol, 6-(2-chloroethoxy)-3a,4,5,6,7,7a-hexahydro-, monoformate	Ia	
316	16536	4,7-Methanoindan-2,3 diol, 3a,4,5,6,7,7a-hexahydro-6-methoxy-, monoformate	Ia	
317	20186	4,7-Methanoindene, 6-(allyloxy)-3a,4,5,6,7,7a-hexahydro-	Ib	
318	15950	4,7-Methanoindene, 4,5,6,7,8,8-hexachloro-3a-hydroxy-3a,4,7,7a-tetrahydro-	Ib	
319	16540	4,7-Methanoindene-1,8-dione, 2,3,3a,4,5,6,7,7a-octachloro-3a,4,7,7a-tetrahydro-	e/Ib	
320	17649	4,7-Methanoindene-1,8-dione, 3a,4,7,7a-tetrahydro-2,3,5,6-tetraphenyl-	b/Ia	
321	20146	4,7-Methanoinden-6-ol, 3a,4,5,6,7,7a-hexahydro-, acetate	Tb	20
322	25545	4,7-Methanoisobenzofuran, 1,3,4,5,6,7,8,8-octachloro-1,3,3a,4,7,7a-hexahydro-	IIIc	
323	27017-X	1,4-Methanonaphthalene, 1,2,3,4,9,9-hexachloro-1,4,4a=5,6,7,8,8a-octahydro-, chlorinated to contain approximately 72% chlorine	BASF I-155	e/Ic
324	15169	1,4-Methanonaphthalene-5,8-diol, 1,2,3,4,9,9-hexachloro-1,4-dihydro-6-methyl-	Ic	
325	15162	1,4-Methanonaphthalene-5,8-dione, 1,2,3,4,9,9-hexachloro-1,4-dihydro-6-phenyl-	Ic	
326	15161	1,4-Methanonaphthalene-5,8-dione, 1,2,3,4,9,9-hexachloro-1,4,4a,8a-tetrahydro-6-phenyl-	Ib	
327	27737	1,3,4-Metheno-2H-cyclobuta[cd]pentalene-2,2-diol,	Dowco® 245	IV
328	24875	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-ol,1,1a,3,3a,4,=5,5a,5b,6-dechlorooctahydro-	e/IV	

Table 1.--Continued.

Item no.	Entomology no. (Ent.)	Chemical name	Other designations <sup>a</sup> /	Mortality class
329	24876	1,3,4-Metheno-2 <i>H</i> -cyclobuta[cd]pentalen-2-ol, 1,1a,3,3a,4,=5,5,5a,5b,6-decachlorooctahydro-, acetate		IIIb
330	24877	1,3,4-Metheno-2 <i>H</i> -cyclobuta[cd]pentalen-2-ol, 1,1a,3,3a,4,=5,5,5q,5b,6-decachlorooctahydro-, <i>p</i> -toluenesulfonate		IIIc
331	26498	Morpholine, 4-(3,4,5,6,7,8-hexachloro-2-nitro-1-naphthyl)-2-Naphthacencarboxamide, 7-chloro-4-(dimethylamino)-1,4,4a,5,5a,6,11,12a-octahydro-3,6,10,12,12a-penthydroxy-6-methyl-1-11-dioxo-, hydrochloride	Aureomycin hydrochloride	Ia c / Ia
332	50126			
333	11657	Naphthalene, 1-(dodecyloxy)-5,6,7,8-tetrahydro-		Tb
334	11681	Naphthalene, 2-(dodecyloxy)-1,2,3,4-tetrahydro-		Tb
335	5989	Naphthalene, 1,2-epoxy-1,2,3,4-tetrahydro-		Tb
336	26509	Naphthalene, 1,2,3,4,5,6,8-heptabromo-7-nitro-		Tb
337	26495	Naphthalene, 1,2,3,4,5,6,8-heptachloro-7-methoxy-		Ic
338	26496	Naphthalene, 1,2,3,4,5,6,8-heptachloro-7-nitro-		Ic
339	21061	Naphthalene, 1,2,3,4-tetrachloro-1,2,3,4-tetrahydro-		Tb c / Ia
340	19363	1,4-Naphthoquinone, 5,8-dihydro-		Tb
341	8347	Nonenoic acid, tetrahydrofuryl ester		IIb
342	24887	2,5-Norbornadiene		IIb
343	25875	Norbornane, pentachloro-3-(2,2-dichlorocyclopropyl)-2,2-dimethyl-	Hercules 9975	IIIb
344	26239	2-Norbornene, 1,2,3,4,7,7-hexachloro-5-[ (2,4-dini=tropheenoxy)methyl]-		Ic
345	27060	5-Norbornene-2-carbonitrile, 1,4,5,6,7,7-hexachloro-	Hooker HB-15	c / Ia
346	17578	Norbornenedicarboximide, <i>N</i> -[3-[ (2-ethylhexyl)oxy]propyl]-		c / Ia
347	17568	Norbornenedicarboximide, <i>N</i> -(1-ethylpentyl)-		c / Ic

Table 1.--Continued.

Item no.	Entomology no. (Ent.)	Chemical name	Other designations/ class	Mortality class
348	27048	5-Norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro-	Hooker HB-1	e/Ia
349	18074	5-Norbornene-2-methanol, 1,4,5,6,7,7-hexachloro-, acetate		Ib
350	23738	5-Norbornene-2-octanic acid, 1,4,5,6,7,7-hexachloro-3 octyl-, methyl ester		Ia
351	19958	1-Octanol, 2-butyl-		Ib
352	27674	7-Oxabicyclo[4.1.0]heptane, 4-(1-chloro-1-methylethyl)-1-(2,2,2-trichloroethyl)-, (-)-	Naval stores 5384-7-8	Ia
353	7166	7-Oxabicyclo[4.1.0]heptane-1-acetic acid, $\alpha$ -methyl-, methyl ester		Ia
354	25314	7-Oxabicyclo[4.1.0]heptane-3-carboxylic acid, 4-methyl-, (4-methyl-7-oxabicyclo[4.1.0]hept-3-yl)methyl ester		IIIc
355	27059	1,2-Oxaphosphol-4-ene-2-thione, 3,3,5-trimethyl-	Hooker HB-14	e/Ic
356	22570	Pentane, 1,1,1,5-tetrachloro-		Ib
357	19954	1-Pentanol, 3-phenyl-		Ic
358	8980	Pentene, nonachloro-		Ic
359	80025	2-Pentenoic acid, 3-methyl-4-(phenylimino)-, methyl ester	WRAIR AC-05844	Ib
360	27400	2-Pentenoic acid, 2,3,5,5-pentachloro-4-oxo-, (Z)-	Alorac	Ia
361	27401	2-Pentenoic acid, 2,3,5,5-pentachloro-4-oxo-, phenyl ester	Air Products AP-27	Ic
362	24259	1-Penten-3-one, 1-(2,6,6-trimethyl-1-cyclonexen-1-yl)-		IIIa
363	27463	3-Penten-2-one, 4-methyl-, O-(methylcarbamoyl)oxime, (Z)-	Upjohn U-24310	Ib
364	22158	4-Penten-2-one, 3,3-bis[2-(4,6-diamino-8-triazin-2-yl)=ethyl]-4-methyl-		IIIb
365	23715	1-Pentyne-3-ol, 3-(5-norbornen-2-yl)-		Ia
366	20632	Phenethyl alcohol, 2,4-dichloro- $\alpha$ -ethyl- $\alpha$ -methyl-		Ib

Table 1.--Continued.

Item no. no. : (Ent-)	Entomology : no. :	Chemical name	Other designations <sup>a</sup> /	Mortality class
367	22332	Phenetole, 2,3,5,6-tetrachloro-		Ic
368	19598	Phenol, <i>p</i> -bromo-, benzoate		Ic
369	19705	Phenol, 2-bromo-4- <i>tert</i> -butyl-, benzoate		Ic
370	19044	Phenol, 4- <i>tert</i> -butyl-2,6-dinitro-		Ia
371	19025	Phenol, 2,4( <sup>and</sup> 6)(?)-dichloro-3-pentadecyl-		Ia
372	19539	Phenol, 2-ethoxy-6-propenyl-		Ib
373	1561	Phenol, pentabromo-		Ic
374	17305	Phenol, pentabromo-, acetate		Ib
375	22334	Phenol, 2,3,5,6-tetrachloro-4-nitro-, acetate		IIIa
376	30726	Phenol, <i>p</i> -(1,1,3,3-tetramethylbutyl)-, acetate		II <sup>b</sup>
377	17245	Phenol, 2,4,6-tribromo-, acetate		Ib
378	15252	Phenol, 2,4,5-trichloro-, acetate		Ia
379	20764	Phosphoric acid, (2,2-dichloro-1-hydroxyethyl)-, dimethyl ester, acetate		Ic
380	20762	Phosphonic acid, (2,2,3-trichloro-1-hydroxybutyl)-, diethyl ester		Ia
381	20761	Phosphonic acid, (2,2,3-trichloro-1-hydroxybutyl)-, dimethyl ester		Ia
382	25831	Phosphonodithioic acid, (chloromethyl)-, <i>S</i> -( <i>p</i> -chlorophenyl) Stauffer B-10046	<sup>e/</sup> IIIc	
383	25833	Phosphonodithioic acid, (chloromethyl)-, <i>S</i> -( <i>p</i> -chlorophenyl) Stauffer B-10117	<sup>e/</sup> IIa	
384	27267	Phosphonodithioic acid, (chloromethyl)-, <i>S,S</i> -diethyl ester	Chenagro R-5461	Ic
385	25834	Phosphonodithioic acid, (chloromethyl)-, <i>O</i> -isopropyl <i>S</i> - <i>p</i> -tolyl ester	Stauffer B-10119	<sup>e/</sup> IIa

Table 1.--Continued.

Entomology :		Chemical name		Other designations /		Mortality class
Item no.	(Ent.)	no.		no.		
386	27251	Phosphonodithioic acid, ethyl-, <i>S</i> -( <i>p</i> -tert-butylphenyl) <i>O</i> -methyl ester	Stauffer N-4330			IIIB
387	27045	Phosphonodithioic acid, ethyl-, <i>S</i> -(4-chloro- <i>m</i> -tolyl) <i>O</i> -ethyl ester	Stauffer N-4446		e/IIa	
388	27632	Phosphonodithioic acid, ethyl-, <i>S</i> -( <i>p</i> -chlorophenyl) <i>O</i> -isobutyl ester	Stauffer R-15792		IIb	
389	27309	Phosphonodithioic acid, ethyl-, <i>S</i> -(4-chloro- <i>m</i> -tolyl) <i>O</i> -methyl ester	Stauffer N-4988		IIIa	
390	27298	Phosphonodithioic acid, ethyl-, <i>S</i> -[(2,4-dichlorophenoxy)= methyl] <i>O</i> -ethyl ester	Stauffer N-5196		e/IIa	
391	27361	Phosphonodithioic acid, ethyl-, <i>S</i> -[(2,4-dichlorophenoxy)= methyl] <i>O</i> -propyl ester	Stauffer R-10414		IIIB	
392	27038	Phosphonodithioic acid, ethyl-, <i>O</i> -ethyl ester, <i>S</i> -ester with 2-[ (mercaptomethyl)thio]- <i>N</i> -methylacetamide	Stauffer N-4168		e/IIIC	
393	27249	Phosphonodithioic acid, ethyl-, <i>O</i> -methyl <i>S</i> -phenyl ester	Stauffer N-3794		IIa	
394	27250	Phosphonodithioic acid, ethyl-, <i>O</i> -methyl <i>S</i> - <i>p</i> -tolyl ester	Stauffer N-4328		IIa	
395	27661	Phosphonodithioic acid, (2-methoxyvinyl)-, <i>S</i> , <i>S</i> , -diisopropyl ester	Chemagro 7375		IIIB	
396	27180	Phosphonodithioic acid, methyl- <i>S</i> -[( <i>p</i> -chlorophenyl)thio]= <i>O</i> -methyl ester	Stauffer N-4518		IIIB	
397	27185	Phosphonodithioic acid, methyl-, <i>O</i> -(2,4-dichlorophenyl) <i>S</i> -propyl ester	Mobil V-C 3-759		IIIa	
398	27186	Phosphonodithioic acid, methyl-, <i>O</i> -phenyl <i>S</i> -propyl ester	Mobil V-C 3-764		IIa	
399	27227	Phosphonothioic acid, (chloromethyl)-, <i>O</i> -ethyl ester, <i>O</i> -ester with 4-hydroxy- <i>m</i> -anisonitrile	Stauffer B-11110		Ic	
400	27373	Phosphonothioic acid, ethyl-, <i>O</i> -(4-bromo-2,5-dichlorophenyl) <i>O</i> -ethyl ester	CELA K-37		IIa	

Table 1.--Continued.

Item no. no. : (Ent-)	Entomology : no. :	Chemical name	Other designations <sup>2</sup> /	Mortality class
401	27374	Phosphonothioic acid, ethyl-, <i>O</i> -(4-bromo-2,5-dichloro-phenyl) <i>O</i> -methyl ester	CELA K-41	IIb
402	25798	Phosphonothioic acid, ethyl-, <i>O</i> -(2,4-dichlorophenyl) <i>O</i> -ethyl ester	Stauffer N-3054	IIIb
403	27549	Phosphonothioic acid, ethyl-, <i>O</i> -ester with <i>P</i> -hydroxybenzaldehyde <i>O</i> -[('m'-chlorophenyl)carbamoyl]oxime	Stauffer R-15022	IIIc
404	27375	Phosphonothioic acid, methyl-, <i>O</i> -(4-bromo-2,5-dichloro-phenyl) <i>O</i> -isopropyl ester	CELA K-43	IIIb
405	27453	Phosphonothioic acid, methyl-, <i>O</i> -(4-bromo-2,5-dichloro-phenyl) <i>O</i> -propyl ester	CELA K-159	IIb
406	27406	Phosphonodithioic acid, methyl-, <i>S</i> -4-chloro- <i>m</i> -tolyl <i>O</i> -ethyl ester	Stauffer R-10778	IIb
407	27634	Phosphonothioic acid, methyl-, <i>O</i> -[2,5-dichloro-4-(methylthio)phenyl] <i>O</i> -ethyl ester	CELA K-673	IIc
408	27033	Phosphonothioic acid, methyl-, <i>O</i> -ethyl ester, <i>O</i> -ester with <i>p</i> -hydroxybenzonitrile	Stauffer B-10341	e/ IIa
409	25870	Phosphonothioic acid, phenyl-, <i>O</i> -phenyl ester, <i>O</i> -ester with <i>p</i> -hydroxybenzonitrile	Monsanto OP-40507	e/ IIb
410	27343	Phosphonothioic acid, phenyl-, <i>O</i> -(4-bromo-2,5-dichloro-phenyl) <i>O</i> -ethyl ester	Velsicol FCS-303	Ia
411	27378	Phosphonothioic acid, phenyl-, <i>O</i> -(4-bromo-2,5-dichloro-phenyl) <i>O</i> -methyl ester	Velsicol VCS-506	Ic
412	27572	Phosphoramidic acid, isopropyl-, ethyl 4-(methylthio)- <i>m</i> -tolyl ester	Bay 68138	IIb
413	27656	Phosphoramidic acid, isopropyl-, methyl <i>p</i> -nitrophenyl ester	Sandoz 6607	IIb
414	27396	Phosphoramidothioic acid, <i>O,S</i> -dimethyl ester	Chevron Ortho <sup>®</sup> 9006	IIa
415	27398	Phosphoramidothioic acid, <i>O</i> -ethyl <i>S</i> -methyl ester	FMC 65258	e/ IIb

Table 1.--Continued.

Item no. :	Entomology no. :	Chemical name	Other designations <sup>a/</sup>	Mortality class
401	27374	Phosphonothioic acid, ethyl-, O-(4-bromo-2,5-dichloro-phenyl) O-methyl ester	CELA K-41	IIb
402	25798	Phosphonothioic acid, ethyl-, O-(2,4-dichlorophenyl) O-ethyl ester	Stauffer N-3054	IIIb
403	27549	Phosphonothioic acid, ethyl-, O-ethyl ester, O-ester with P-hydroxybenzaldehyde O-[('m-chlorophenyl)carbamoyl]oxime	Stauffer R-15022	IIIc
404	27375	Phosphonothioic acid, methyl-, O-(4-bromo-2,5-dichloro-phenyl) O-isopropyl ester	CELA K-43	IIIb
405	27453	Phosphonothioic acid, methyl-, O-(4-bromo-2,5-dichloro-phenyl) O-propyl ester	CELA K-159	IIb
406	27406	Phosphonodithioic acid, methyl-, S-4-chloro- <i>m</i> -tolyl O-ethyl ester	Stauffer R-10778	IIb
407	27634	Phosphonothioic acid, methyl-, O-[2,5-dichloro-4-(methylthio)phenyl] O-ethyl ester	CELA K-673	IIc
408	27033	Phosphonothioic acid, methyl-, O-ethyl ester, O-ester with p-hydroxybenzonitrile	Stauffer B-10341	e/ <sup>a/</sup> IIa
409	25870	Phosphonothioic acid, methyl-, O-phenyl ester, O-ester with p-hydroxybenzonitrile	Monsanto OP-40507	e/ <sup>a/</sup> IIb
410	27343	Phosphonothioic acid, phenyl-, O-(4-bromo-2,5-dichlorophenyl) O-ethyl ester	Velsicol FCS-303	Ia
411	27378	Phosphonothioic acid, phenyl-, O-(4-bromo-2,5-dichlorophenyl) O-methyl ester	Velsicol VCS-506	Ic
412	27572	Phosphoramidic acid, isopropyl-, ethyl 4-(methylthio)- <i>m</i> -tolyl ester	Bay 68138	IIb
413	27656	Phosphoramidic acid, isopropyl-, methyl <i>p</i> -nitrophenyl ester	Sandoz 6607	IIb
414	27396	Phosphoramidothioic acid, O,S-dimethyl ester	Chevron Ortho <sup>®</sup> 9006	IIa
415	27398	Phosphoramidothioic acid, O-ethyl S-methyl ester	Var 65258	e/ <sup>a/</sup> IIb

Table 1.--Continued.

Item no. (Ent.)	Entomology :	Chemical name	Other designations /	Mortality class
431	27240	Phosphorodiamidic acid, tetramethyl-, pentachlorophenyl ester	Thompson-Hayward TH 184-F	Ia
432	25760	Phosphorodithioic acid, S-[ (4,6-diamino-s-triazin-2-yl)=methyl] O,O-dimethyl ester	Menazon PP-175	IIb
433	27650	Phosphorodithioic acid, O,O-diethyl ester, S-ester with 3-(2-chloro-1-mercaptoproethyl)-2-benzoxazolinone	Hercules 16434	IIb
434	27320	Phosphorodithioic acid, O,O-diethyl ester, S-ester with N-(2-chloro-1-mercaptoproethyl)phthalimide	Hercules 14503	IIIb
435	27163	Phosphorodithioic acid, O,O-diethyl ester, S-ester with 6-chloro-3-(mercaptomethyl)-2-benzoxazolinone	Niagara NIA-9241	IIIb
436	27312	Phosphorodithioic acid, O,O-diethyl ester, S-ester with N-(2-cyanoethyl)-2-mercaptopropanilide	Allied GC-10284	Ib
437	27316	Phosphorodithioic acid, O,O-diethyl ester, S-ester with N,N-diallyl-2-mercaptoproacetamide	Monsanto CP-18973	e/ Ic
438	25874	Phosphorodithioic acid, O,O-diethyl ester, S-ester with 1-(mercaptoacetyl)-1-methylurea	Hercules 8148-A	e/ IIIC
439	25873	Phosphorodithioic acid, O,O-diethyl ester, S-ester with 3-(mercaptomethyl)-2-benzothiazolinone	Hercules 7846D	e/ IIIa
440	25871	Phosphorodithioic acid, O,O-diethyl ester, S-ester with 3-(mercaptomethyl)-2-benzoxazolinone	Hercules 6286-B	e/ IIIa
441	27295	Phosphorodithioic acid, O,O-diethyl ester, S-ester with 3-(mercaptomethyl)-2,4-thiazolidinedione	Stauffer R-7239	e/ IIIa
442	27159	Phosphorodithioic acid, O,O-diethyl S-9-thiabicyclo[4.2.1]nonenyl ester	Hooker HRS-1635	IIIa
443	27370	Phosphorodithioic acid, O,O-diethyl S-(3,4,4-trifluoro-3-butenyl) ester	Stauffer R-8963	IIIa
444	27653	Phosphorodithioic acid, O,O-dimethyl ester, S-ester with 1-acetyl-3-(mercaptopropan-1-5-aminohydroxybutan-1-	Hercules 18010	IIb

Table 1.--Continued.

Item no. no. : (Ent-)	Entomology : no. :	Chemical name	Other designations/ designations/ : class	Mortality class
445	27652	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with 1-acetyl-3-(mercaptopethyl)hydantoin	Hercules 18009	IIb
446	27268	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with $N$ -(2-bromo-1-mercaptopethyl)phthalimide	Hercules 13842	b/ IIIb
447	27321	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with $N$ -(2-chloro-1-mercaptoprotoethyl)phthalimide	Hercules 14504	Ic
448	27238	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with 2-ethoxy-4-(mercaptopethyl)- $\Delta$ 2-1,3,4-thiadiazolin-5-one	Geigy GS-12968	IIb
449	27360	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with $N$ -isopropyl-2-mercaptop- $N$ -methoxyacetamide	CIBA C-2428	IIa
450	27310	Phosphorodithioic acid, $O_2O$ -dimethyl ester, ester with 2-mercato- $N,N'$ -dimethoxy- $N,N'$ -dimethylsuccinamide	Velsicol OCS-21959	e/ Ic
451	27346	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with $N$ -(2-mercaptoprotoethyl)acetamide	Monsanto CP 49674	f/ IIb
452	27405	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with $N$ -(1-mercaptoprotoethyl)succinimide	Hercules 13462	f/c/ IIb
453	27111	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with 3-(mercaptoprotoethyl)-2-benzothiazolinone	Chipman RP-11807	e/ IIb
454	27615	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with 3-(mercaptoprotoethyl)-1-methylhydantoin	Hercules 17413	IIb
455	27614	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with 3-(mercaptoprotoethyl)-2,4-oxazolidinedione	Hercules 17409	IIa
456	25872	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with $N$ -(mercaptoprotoethyl)succinimide	Hercules 7845-C	e/ IIb
457	27296	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with 3-(mercaptoprotoethyl)-2,4-thiazolidinedione	Stauffer R-7240	e/ IIb
458	27798	Phosphorodithioic acid, $O_2O$ -dimethyl ester, $S$ -ester with 1-mercaptopropane, dimethyl mercaptal	Stauffer R-19641	IIb

Table 1.—Continued.

Item no.	Ent. no.	Entomology :	Chemical name	Other designations <sup>a</sup> /	Mortality class
459	27073	Phosphorodithioic acid, <i>O,O</i> -dimethyl <i>S-[</i> (2-methyl-1,3-dithi= Stauffer B-10421 e/IIB olan-2-yl)methyl] ester			
460	27071	Phosphorodithioic acid, <i>O,O</i> -dimethyl <i>S-[</i> (2-methyl-1,3-oxathiolan-2-yl)methyl] ester	Stauffer B-9625	e/IIB	
461	27412	Phosphorodithioic acid, <i>O,O</i> -dimethyl <i>S-[</i> 2-(methylthio)- propyl] ester	Enjay ER 2430	IIIb	
462	27158	Phosphorodithioic acid, <i>O,O</i> -dioctadecyl ester, nickel salt	Hoover HRS-1634	b/ IIIa	
463	27318	Phosphorodithioic acid, <i>O</i> -ethyl <i>S,S</i> -dipropyl ester	MoCap	IIIA	
464	25863	Phosphorodithioic acid, <i>O</i> -methyl <i>O</i> -propyl ester, <i>S</i> -ester with <i>N</i> -(mercaptomethyl)phthalimide	Stauffer R-5092-B e/ IIB		
465	27030	Phosphoro(monothioperoxoic) acid, <i>SO</i> -2,4-dinitrophenyl <i>O,O</i> -diethyl ester	Stauffer B-10204	b/ Ia	
466	27445	Phosphorothioic acid, <i>O</i> -1,2,3-benzothiadiazol-6-yl <i>O,O</i> -dimethyl ester	Shell SD 15135	f/c/ IIb	
467	27162	Phosphorothioic acid, <i>O</i> -(4-bromo-2,5-dichlorophenyl) <i>O,O</i> -dimethyl ester	CEIA S-1942	IIb	
468	27607	Phosphorothioic acid, <i>O</i> -(3-bromo-5,7-dimethylpyrazolo-[1,5- <i>a</i> ]pyrimidin-2-yl) <i>O,O</i> -diethyl ester	Bay 75546	IIb	
469	27444	Phosphorothioic acid, <i>O</i> -(4-chloro-7-benzofurazanyl) <i>O,O</i> -dimethyl ester	Shell SD 15134	IIb	
470	27464	Phosphorothioic acid, <i>O</i> -(7-chloro-4-benzofurazanyl) <i>O</i> -isopropyl <i>O</i> -methyl ester	Shell SD 15963	IIIC	
471	27102	Phosphorothioic acid, <i>O</i> -[2-chloro-1-(2,5-dichlorophenyl) vinyl] <i>O,O</i> -diethyl ester	Akton <sup>(R)</sup>	IIb	
472	27608	Phosphorothioic acid, <i>O</i> -(3-chloro-5,7-dimethylpyrazolo-[1,5- <i>a</i> ]pyrimidin-2-yl) <i>O,O</i> -diethyl ester	Bay 79845	IIb	
473	27409	Phosphorothioic acid, <i>O</i> -(2,5-dichloro-4-iodophenyl) <i>O</i> -n- <i>diethyl acetate</i>	CIBA C-8874	IIb	

Table 1.--Continued.

Item no. (Ent-)	Entomology no.	Chemical name	Other designations/ class	Mortality class
474	27408	Phosphorothioic acid, <i>O</i> -(2,5-dichloro-4-iodophenyl) <i>O,O</i> -dimethyl ester	CIBA C-9491	IIIb
475	27449	Phosphorothioic acid, <i>O,O</i> -diethyl ester, <i>O</i> -ester with ( <i>o</i> -chlorophenyl)glyoxylnitrile oxime	Bay 78182	IIIc
476	27469	Phosphorothioic acid, <i>O,O</i> -diethyl ester, <i>O</i> -ester with (2,6-dichlorophenyl)glycyldionitrile oxime, <i>B</i> isomer	Bay 78755	IIIb
477	27654	Phosphorothioic acid, <i>O,O</i> -diethyl ester, <i>O</i> -ester with <i>4'</i> -hydroxyacetophenone <i>O</i> -(ethoxycarbonyl)oxime	Stauffer R-15018	Ic
478	27648	Phosphorothioic acid, <i>O,O</i> -diethyl ester, <i>O</i> -ester with <i>4</i> -hydroxy- <i>m</i> -anisaldehyde <i>O</i> -(methylcarbamoyl)oxime	Stauffer R-14789	IIa
479	27507	Phosphorothioic acid, <i>O,O</i> -diethyl ester, <i>O</i> -ester with <i>p</i> -hydroxybenzaldehyde <i>O</i> -(allylicarbamoyl)oxime	Stauffer R-14488	IIIb
480	27506	Phosphorothioic acid, <i>O,O</i> -diethyl ester, <i>O</i> -ester with <i>p</i> -hydroxybenzaldehyde <i>O</i> -(methylcarbamoyl)oxime	Stauffer R-14487	IIIb
481	27647	Phosphorothioic acid, <i>O,O</i> -diethyl ester, <i>O</i> -ester with <i>p</i> -hydroxybenzaldehyde <i>O</i> -(methylcarbamoyl)oxime	Stauffer R-15996	IIIb
482	27651	Phosphorothioic acid, <i>O,O</i> -diethyl ester, <i>S</i> -ester with 3-(mercaptopethyl)-2,4-oxazolidinedione	Hercules 18290	IIIb
483	27448	Phosphorothioic acid, <i>O,O</i> -diethyl ester, <i>S</i> -ester with phenylglyoxylnitrile oxime	Bay 77488	IIIc
484	27841	Phosphorothioic acid, <i>O,O</i> -diethyl ester, <i>O</i> -ester with <i>O</i> -tolylglyoxylnitrile oxime	Bay 88941	IIIc
485	27416	Phosphorothioic acid, <i>O,O</i> -diethyl <i>S</i> -[2-(ethylthio)propyl ester	Enjay ER 2434	IIIa
486	19507	Phosphorothioic acid, <i>O,O</i> -diethyl <i>O</i> -(2-isopropyl-6-methyl- <i>4</i> -pyrimidinyl) ester	Geigy G-24480	IIIb
487	23064	Phosphorothioic acid, <i>O,O</i> -diethyl <i>O</i> -(pentachlorophenyl) ester		IIIa
488	27394-X	Phosphorothioic acid, <i>O,O</i> -diethyl <i>O</i> -2-quinoxalinyl ester, 50% in xylene	Sandoz 6538	IIIc

Table 1.--Continued.

Entomology :	no. :	Chemical name	Other designations/	Mortality class
Item no. :	(Ent-)			
489	27330	Phosphorothioic acid, <i>O,O</i> -dimethyl ester, <i>O,O</i> -diester with <i>4,4'</i> -dithiodiphenol	Bay 64995	IIa
490	27165	Phosphorothioic acid, <i>O,O</i> -dimethyl ester, <i>O,O</i> -diester with <i>4,4'</i> -thiodiphenol	Abate <sup>R</sup>	IIb
491	27465	Phosphorothioic acid, <i>O,O</i> -dimethyl ester, <i>O</i> -ester with <i>N</i> -benzyl- <i>4</i> -hydroxypthalimidine	Shell SD 12211	III
492	27769	Phosphorothioic acid, <i>O,O</i> -dimethyl ester, <i>O</i> -ester with <i>2</i> -chloro- <i>N,N</i> -diethyl- <i>4</i> -hydroxybenzenesulfonamide	Upjohn U-34013	IIa
493	19196	Phosphorothioic acid, <i>O,O</i> -dimethyl ester, <i>O</i> -ester with <i>3</i> -chloro- <i>7</i> -hydroxy- <i>4</i> -methylcoumarin	IRD	II
494	27235	Phosphorothioic acid, <i>O,O</i> -dimethyl ester, <i>O</i> -ester with <i>5</i> -chlorosalicylonitrile	Bay 54203 e/	IIb
495	27230	Phosphorothioic acid, <i>O,O</i> -dimethyl ester, <i>O</i> -ester with <i>4</i> -hydroxy- <i>m</i> -anisone	Stauffer R-11163	III
496	27618	Phosphorothioic acid, <i>O,O</i> -dimethyl ester, <i>S</i> -ester with <i>3</i> -(mercaptomethyl)- <i>1</i> -methylhydantoin	Hercules 18526	Tb
497	27616	Phosphorothioic acid, <i>O,O</i> -dimethyl ester, <i>S</i> -ester with <i>3</i> -(mercaptomethyl)- <i>2</i> , <i>4</i> -thiazolidinedione	Hercules 17834	Tb
498	17292	Phosphorothioic acid, <i>O,O</i> -dimethyl <i>O</i> -( <i>p</i> -nitrophenyl) ester	Methyl parathion	IIa
499	27422	Phosphorothioic acid, <i>O,O</i> -dimethyl <i>S</i> -propenyl ester	Enjay ER 2440	IIb
500	27248	Phosphorothioic acid, <i>O</i> -isopropyl <i>O</i> -methyl <i>O</i> -( <i>p</i> -nitrophenyl) ester	Bay 52553	IIIc
501	27326	Phosphorothioic acid, <i>O</i> -[ <i>3</i> -(isopropylthio)- <i>4</i> -nitrophenyl] <i>O,O</i> -dimethyl ester	Bay 69047	IIIc
502	20796	Phosphorothioic acid, <i>O</i> -( <i>2,2</i> -dichlorovinyl) <i>S,S</i> -diethyl ester	b/ Ia	
503	27184	Phosphorothioic acid, <i>O</i> -methyl <i>S,S</i> -dipropyl ester	Mobil V-C 3-668	IIb

Table 1.--Continued.

Item : no. no. (Ent.)	Entomology : no. :	Chemical name	Other designations <sup>a</sup> / <u>b</u> /Ia	Mortality class
504	80171	Piperidine, 1-( <i>B</i> -aminophenethyl)-	WRAIR AD-99832	IIa
505	24456	Piperidine, 3-[( <i>p</i> -chloro- <i>a</i> -phenylbenzyl)amino]-1-methyl-, dihydrochloride		b/Ia
506	23154	1-Piperidinecarboxylic acid, 5-ethyl-2-methyl-, isopropyl ester		Ic
507	31026	Piperonyl alcohol, 6-bromo- <i>a</i> -(1-bromoethyl)-, propionate		Ia
508	31370	Piperonylic acid, 6-chloro-, [2,2-dimethyl-3-(2-methylpropenyl)cyclopropyl]methyl ester		Ic
509	19920	Podocarpa-7,13-dien-15-oic acid, 13-isopropyl-, ester with 2-allyl-4-hydroxy-3-methyl-2-cyclopenten-1-one		Ia
510	23232	Podocarpa-8,11,13-triene-15-carboxylic acid, 13-isopropyl-		Ia
511	52879	Potassium azide		Ib
512	6588	Propane, 1,1,1,2,3-pentachloro-2-methyl-		IIIa
513	32152	1,2-Propanediol, 3-chloro-, diacetate		Ic
514	13148	1,2-Propanediol, 3-(2,4-dichlorophenoxy)-		Ia
515	15482	1,2-Propanediol, 3-(dimethylamino)-		Ia
516	22913	1,2-Propanediol, 3-( <i>p</i> -nonylphenoxy).		Ib
517	19524	1,2-Propanediol, 3-(pentachlorophenoxy)-, diacetate		Ic
518	26304	1-Propanol, 3-( <i>p</i> -chlorophenyl)-, formate		Ia
519	17553	1-Propanol, 3-(2-m-dioxan-2-ylethoxy).		<u>e</u> /Ia
520	80349	2-Propanol, 1-(allyloxy)-3-(diisobutylamino)-		Ib
521	22918	2-Propanol, 1,1,1,3,3-hexachloro-		Ic
522	22917	2-Propanone, hexachloro-		Ia
523	25036	Propionaldehyde, 2,2-trichloro-		Ib
524	19916	Propionamide, <i>N</i> -(3-isopropoxypyropyl)-		Ib

Table 1.--Continued.

Item no.	(Ent.)	Chemical name	Other designations <sup>a/b</sup>	Mortality class
525	19914	Propionamide, N-(3-methoxypropyl)-		Ib
526	17676	Propionanilide, 2,5-dichloro-		Ib
527	21904	Propionanilide, 2',5'-dichloro-2-methyl-.		Ia
528	31409	Propionanilide, 3',4'-dichloro-2-methyl-.		Ia
529	18249	Propionic acid, pentachlorophenyl ester		Ib
530	26664	Propionic acid, 3-(diethylamino)-, methyl ester	e/Ib	
531	27794	Propionic acid, 2-phenoxy-, 5-chloro-2-(dimethylamino)- α-phenylbenzyl ester	Velsicol RCS-1872	Ic
532	19878	Pseudourea, 2-decy-1,3-diethyl-2-thio-, hydrobromide		Ia
533	19877	Pseudourea, 2-decy-1,3-diethyl-2-thio-, hydrochloride		Ia
534	19875	Pseudourea, 2-decy-1,3-dimethyl-2-thio-, hydrochloride		Ia
535	19887	Pseudourea, 2-dodecyl-1,3-diethyl-2-thio-, hydrobromide		Ia
536	19886	Pseudourea, 2-dodecyl-1,3-diethyl-2-thio-, hydrobromide		Ib
537	31377	Pyran, tetrahydro-2-isobutoxy-3-(1-isobutoxy-2-methylpropyl)-		Ic
538	19230	Pyridine, 2-chloro-5-nitro-		Ic
539	80177	Pyridine, 3-phenoxo-	WRAIR AE-06252	Ib
540	80128	Pyridine, 3,4,5-triamino-, dihydrcchloride	WRAIR AC-73959	f/Ib
541	80015	2(1H)-Pyridone, 1,3-dimethyl-.	WRAIR AB-74577	Ib
542	80311	Pyrimidine, 5-bromo-2,4-dimethoxy-	WRAIR AF-50602	Ic
543	27281	Pyrimidine, 2-[{(2,4,4-trifluoro-3-but'etyl)thio]-	Stauffer R-5467	Ic
544	15220	5-Pyrimidinecarboxylic acid, 1,2,3,4-tetrahydro-6-methyl- 2-oxo-4-phenyl-, ethyl ester	b/Ia	
545	19414	Pyrrolidine, 1-[{[2,2-dimethyl-3-(2-methylpropenyl)cyclo- propyl]carbonyl}-		Ib

Table 1.--Continued.

Entomology :		Chemical name	Other designations <sup>a/b</sup>	Mortality class
Item no.	(Ent.)			
546	80315	Quinoline, 1-[4-(diethylamino)-1-methylbutyl]amino-3-p-tolyl-	WRAIR AF-52652	Ic
547	80104	Quinolinium, 1-methyl-2-(1-naphthylvinyl)----iodide	WRAIR AC-26147	Ic
548	80242	8-Quinolinol, 5,7-diamino-, disulfate	WRAIR AE-41055	Ia
549	27658	Salicylic acid, isopropyl ester, O-ester with O-ethyl phosphoramidothioate	Bay 91273	IIIc
550	27659	Salicylic acid, isopropyl ester, O-ester with O-methyl phosphoramidothioate	Bay 93820	IIIc
551	30680	Sorbic acid, octadecyl ester		Ic
552	13008	Spiro[cyclohexane-1,2'-m-dioxane], 4',6'..trimethyl-		Ic
553	6213	Spiro[cyclohexane-1,2'..1,3-dioxolane-4',1'..cyclohexane]-5'-one		Tb
554	32571	Spiro[1,3-dioxolane-2,2'..norbornane], 4..(chloromethyl)-1',7',7'-trimethyl-		Ic
555	32561	Spiro[1,3-dioxolane-2,2'..norbornane], 1',4,5,7',7'-pentas= methyl-		Ic
556	32559	Spiro[1,3-dioxolane-2,2'..norbornane], 1',7',7'..trimethyl-		Ic
557	14299	Sulfone, benzyl p-chlorophenyl		Ia
558	9778	Sulfone, chloromethyl phenyl		Tb
559	16082	Sulfone, isobornyl phenyl, chlorinated to contain 66.1% chlorine		Ic
560	26840-X	Thiazole fluoroscor B		e/Tb
561	19641	Thiocyanic acid, 4-hydroxy- <i>n</i> -cumenyl ester		Ia
562	19639	Thiocyanic acid, 4-hydroxy-3,5-xylyl ester		Ia
563	25764	Thiophene, tetrachloro-		e'/IIIA
564	24017	Thymol, 2,6-dichloro-		Ia

Table 1.--Continued.

Entomology :		Chemical name	Other designations <sup>a</sup>	Mortality class
Item no.	(Ent-)			
565	25394	Tin, acetoxytributyl-		Ib
566	25208	Tin, acetoxytriphenyl-		Ib
567	25207	Tin, chlorotriphenyl-		Ib
568	27428	Tin, hexamethyldi-	Pennvalt TD-5032	IIA e/Ib
569	26803-X	Tinopal PCRP	Geigy F-51	
570	30025	<i>o</i> -Toluamide, <i>N,N</i> -dipropropyl-		Ib
571	2474	Toluene, dibromo-		Ia
572	14885	Toluene, <i>o</i> , <i>o</i> -dichloro-		Ib
573	14884	Toluene, <i>p</i> , <i>p</i> -dichloro..		Ib
574	2376	Toluene, <i>a,a,a,2,4</i> -pentachloro..		IIIa
575	14870	Toluene, <i>a,a,a</i> -trifluoro-		Ia
576	7485	Toluene, <i>a,a,a</i> -trifluoro- <i>m</i> -nitro-		IIIa
577	30132	<i>m</i> -Toluic acid, 2-propynyl ester		IIIa
578	27773	<i>o</i> -Toluic acid, 5-chloro-2-(dimethylamino)- <i>a-o</i> -tolylbenzyl ester	Velsicol RCS-1712	Ib
579	17669	<i>m</i> -Toluidine, 6-(ethylsulfonyl)- <i>a,a,a</i> -trifluoro-		Ia
580	18231	<i>m</i> -Toluidine, 2,4,6-trichloro-		Ia
581	490	<i>o</i> -Toluidine, 4-bromo-		Ib
582	16312	<i>o</i> -Toluidine, 4-nitro-		Ia
583	24917	1,3,5,2,4,6-Triazatriphosphorine, 2,2,4,4,6,6-hexachloride		IIA e/Ic
584	27050	1 <i>H</i> -Trindene, dodecachloro-4,7-dihydro-	Hooker HB-4	
585	25488	1-Undecanol, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-eicosafluoro-		Ib
586	51117	Urea, 3-allyl-1,1-dimethyl-2-thio-	Ind. Dyestuff	e/Ia

Table 1.--Continued.

Item no.	no.	Chemical name	Other designations <sup>a/</sup>	Mortality class
587	51116	Urea, 1-allyl-3-octadecyl-2-thio-	Ind. Dyestuff TH-697	e/ Ia
588	14636	Urea, 1,3-diethyl-2-thio-		Ic
589	19378	p-Xylene, $\alpha, \alpha'$ -dichloro-		Ic
590	22670	$\begin{matrix} \text{2,4-Xylidine, } \alpha \text{-} \\ \text{-(o-chlorophenyl)-N-ethyl-} \alpha \text{-} \\ \text{[4-(ethylimino)-} \\ \text{3-methyl-2,4-cyclohexadien-1-ylidene]-, hydrochloride} \end{matrix}$		Ia

<sup>a/</sup> Mention of a commercial, proprietary product, or pesticide does not constitute endorsement or recommendation of this product by the USDA

<sup>b/</sup> 1% monoglycerides of lard added to hold toxicants in suspension.

<sup>c/</sup> 1% solution of toxicant precipitated out at room temperature, this solution was heated in a water bath until placement in the vial caps.

<sup>d/</sup> WRAIR = Walter Reed Army Institute of Research

<sup>e/</sup> Chemical tested at Imported Fire Ant Laboratory, PPD, Gulfport, Mississippi, by Lofgren *et al.*, ARS 81-14, but not included in that report because of confidential status.

<sup>f/</sup> Toxicant tested in 10% sucrose solution.

<sup>g/</sup> 1% monoglycerides of lard added to toxicant, toxicant and monoglycerides precipitated out at room temperature.

<u>ENT- No.</u>	<u>Item No.</u>	<u>ENT- No.</u>	<u>Item No.</u>
490	581	16275	230
1561	373	16295	102
1848	274	16312	582
2307	214	16380	163
2376	574	16397	311
2406	94	16397-X	310
2474	571	16398	312
3825	95	16445	50
5989	335	16535	315
6213	553	16536	316
6274	177	16540	319
6588	512	16541	297
7166	353	16708	39
7485	576	16926	40
7706	7	17085	293
8082	87	17149	45
8086	168	17245	377
8347	341	17292	498
8980	358	17305	374
8983	246	17339	279
9159	49	17510	229
9627	191	17553	519
9778	558	17568	347
11500	300	17578	34
11657	333	17607	41
11681	334	17649	320
13008	552	17669	579
13073	280	17676	526
13148	514	18012-X	239
14299	557	18045	164
14636	588	18073	244
14678	275	18074	349
14870	575	18078	268
14884	573	18096	243
14885	572	18131	68
15161	326	18219	65
15162	325	18222	169
15167	309	18231	580
15169	324	18249	529
15220	544	18346	105
15252	378	18348	107
15376	306	18394	232
15482	515	18410	104
15492	55	19001	235
15506	59	19006	222
15884	245	19025	371
15928	301	19042	171
15950	313	19044	370
16082	559	19051	26
16266	276	19075	76

<u>ENT- No.</u>	<u>Item No.</u>	<u>ENT- No.</u>	<u>Item No.</u>
19088	57	19914	525
19148	86	19915	10
19189	278	19916	524
19192	183	19919	213
19193	184	19920	509
19194	185	19921	220
19196	493	19932	93
19230	538	19944	209
19282	174	19954	357
19283	173	19958	351
19298	28	19959	210
19307	53	19961	290
19308	83	20146	321
19330	63	20186	317
19363	340	20413	223
19368	162	20472	165
19378	589	20632	366
19414	545	20761	381
19443	77	20762	380
19504	62	20764	379
19507	486	20771	429
19513	170	20796	502
19521	32	20870	4
19522	31	20995	227
19524	517	21036	231
19539	372	21061	339
19559	226	21904	527
19590	277	22006	228
19592	283	22035	38
19593	368	22158	364
19604	203	22240	159
19639	562	22266	52
19641	561	22329	67
19648	197	22332	367
19649	193	22334	375
19651	192	22372	313
19660	194	22418	75
19665	195	22467	286
19689	304	22492	238
19703	56	22570	356
19705	369	22668	44
19720	212	22670	590
19832	96	22675	158
19838	190	22676	125
19875	534	22742	422
19877	533	22785	181
19878	532	22786	182
19886	536	22787	112
19887	535	22847	160
19903	233	22913	516
19911	175	22917	522

<u>ENT- No.</u>	<u>Item No.</u>	<u>ENT- No.</u>	<u>Item No.</u>
22918	521	25692	425
23006	70	25693	426
23025	66	25760	432
23064	487	25764	563
23119	298	25791-X	271
23154	506	25798	402
23175	108	25818	420
23192	167	25831	382
23232	510	25833	383
23374	21	25834	385
23389	16	25842	424
23477	215	25843	153
23561	12	25863	464
23715	365	25870	409
23738	350	25871	440
23770	161	25872	456
23781	282	25873	439
23801	54	25874	438
23927	8	25875	343
24017	564	26034	42
24259	362	26046	307
24456	505	26208	172
24577	292	26239	344
24622	314	26304	518
24727	176	26432	9
24734	6	26495	337
24738	1	26496	338
24744	291	26498	331
24748	196	26509	336
24762	267	26510	253
24875	328	26511	249
24876	329	26512	255
24877	330	26513	250
24887	342	26515	252
24917	583	26516	251
24942	423	26517	248
25036	523	26518	254
25071	281	26519	247
25084	101	26532	43
25207	567	26664	530
25208	566	26696	211
25314	354	26801-X	115
25394	565	26802-X	302
25436	37	26803-X	569
25488	585	26808-X	113
25527	219	26809-X	114
25545	322	26810-X	116
25604	308	26840-X	560
25659	148	26896-X	288
25660	117	26936	285
25671	146	27017-X	323

<u>ENT- No.</u>	<u>Item No.</u>	<u>ENT- No.</u>	<u>Item No.</u>
27018	421	27263	122
27023	416	27264	119
27030	465	27267	384
27033	408	27268	446
27037	284	27281	543
27038	392	27295	441
27045	387	27296	457
27046	118	27298	390
27047	149	27300	136
27048	348	27304	207
27049	217	27305	138
27050	584	27309	389
27051-X	84	27310	450
27052	85	27312	436
27057	296	27314	418
27058	295	27316	437
27059	355	27318	463
27060	345	27320	434
27069	218	27321	447
27071	460	27324	137
27073	459	27326	501
27102	471	27330	489
27111	453	27333	111
27124	81	27334	123
27126	80	27339	234
27135	90	27341	36
27137	89	27343	410
27139	91	27346	451
27158	462	27348	132
27159	442	27349	92
27162	467	27357	427
27163	435	27360	449
27165	490	27361	391
27180	396	27362	133
27184	503	27370	443
27185	397	27373	400
27186	398	27374	401
27211	110	27375	404
27222	430	27378	411
27227	399	27382	134
27230	495	27384	150
27235	494	27385	139
27238	448	27386	30
27239	417	27388	142
27240	431	27389	141
27248	500	27392	143
27249	393	27393	145
27250	394	27394-X	488
27251	386	27396	414
27262	120	27397	144

<u>ENT- No.</u>	<u>Item No.</u>	<u>ENT- No.</u>	<u>Item No.</u>
27393	415	27625	428
27400	360	27632	388
27401	361	27634	407
27405	452	27647	481
27406	406	27648	478
27408	474	27649	135
27409	473	27650	433
27410	140	27651	482
27411	34	27652	445
27412	461	27653	444
27416	485	27654	477
27422	499	27656	413
27428	568	27658	549
27429	180	27659	550
27438	69	27660	270
27444	469	27661	395
27445	466	27674	352
27446	88	27695	147
27448	483	27696	269
27449	475	27704-X	154
27451	179	27705-X	126
27453	405	27706	131
27454	156	27737	327
27456	124	27769	492
27458	155	27772	128
27459	127	27773	578
27462	216	27787	73
27463	363	27794	531
27464	470	27798	458
27465	491	27823	419
27468	121	27824	305
27469	476	27841	484
27474	221	30025	570
27483	178	30035	48
27506	480	30043	64
27507	479	30100	5
27509	29	30132	577
27549	403	30144	78
27553	35	30147	79
27557	152	30180	58
27564	151	30241	109
27572	412	30277-X	3
27573	157	30296	51
27607	468	30383	263
27608	472	30386	17
27614	455	30446	236
27615	454	30462	198
27616	497	30463	199
27618	496	30513	299
27624	130	30589	22

<u>ENT-- No.</u>	<u>Item No.</u>	<u>ENT-- No.</u>	<u>Item No.</u>
30614	258	32900	129
30652	264	32929	261
30654	257	50126	332
30660	47	51116	587
30680	551	51117	586
30688	265	52879	511
30726	376	70249	202
30746	2	70250	206
30903	100	70251	203
30906	103	70253	205
31026	507	70254	200
31040	74	70256	201
31042	72	70259	240
31290	61	80015	541
31295	99	80017	303
31304	224	80020	186
31305	225	80025	359
31363	262	80037	97
31370	508	80041	82
31377	527	80049	98
31387	19	80097	204
31389	46	80104	547
31393	256	80128	540
31409	528	80139	237
31528	260	80143	166
31535	60	80171	504
32088	23	80174	287
32089	14	80177	539
32152	513	80206	208
32187	25	80215	289
32206	106	80218	242
32207	18	80242	548
32239	13	80311	542
32242	259	80315	546
32398	71	80343	241
32404	187	80349	520
32407	189		
32410	188		
32551	27		
32559	556		
32561	555		
32571	554		
32665	33		
32668	20		
32710	266		
32724	24		
32781	15		
32818	11		
32820	273		
32823	272		

## References Cited

- Lofgren, C. S., C. E. Stringer, W. A. Banks, and P. M. Bishop. 1967. Laboratory tests with candidate bait toxicants against the imported fire ant. USDA, ARS 81-14, 25p.
- Wojcik, D. P., W. A. Banks, J. K. Plumley, and C. S. Lofgren. Laboratory tests with additional candidate bait toxicants against the imported fire ant. J. Econ. Entomol. (in press)