Appendix A – Multi A.I. Product Analysis

Summary Report Active Mixtures

Product	Current Registration No.	Percent Active Ingredient	Active Ingredient	MRID(s) for Acute Oral Study	IHAD TXR No.	Male Oral LD50 (mg/kg)	Male Oral LD50 Lower CI (mg/kg)	Male Oral LD50 Upper CI (mg/kg)	Female Oral LD50 (mg/kg)	Female Oral LD50 Lower CI (mg/kg)	Female Oral LD50 Upper CI (mg/kg)	Combined Oral LD50 (mg/kg)	Combined Oral LD50 Lower CI (mg/kg)	Combined Oral LD50 Upper CI (mg/kg)	Is Formulation more toxic to males	Is Formulation more toxic to females	Is formulation more toxic to combined sexes	Comments
LD50 Information on Technicals																		
	50534-24	96%	Chlorothalonil	94941	2798	>10000			>10000			>10000						
	60063-1	98.00%	Chlorothalonil	43678401	5011872	>5050			>5050			>5050						
	50534-114	96.00%	Chlorothalonil	94728	5011268	>16240			>16240			>16240						
	74601-1	98.63%	Chlorothalonil	45710203	5003877	>5000			>5000			>5000						
	88058-1	98.50%	Chlorothalonil	48326606	5013173				>5000									Up and Down Procedure
LD50 Information																		

1	100-800	4.5	D-Alanine, N-(2,6-dimethylphenyl)-N-(methoxyacetyl)-, methyl ester															
	100-800	72	Chlorothalonil	43800324	5000068	5130	4582	5744	2438	311	19117	5041	4334	5863	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Administered as a single dose in deionized water to 5 rats/sex/dose.
2	100-1171	4.6	Azoxystrobin															
	100-1171	46	Chlorothalonil	45843603	5002701	n.d.	n.d.	n.d.	1750	731.9	4440	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Up-and-down method used.
3	100-1192	2.9	Propiconazole															
	100-1192	38.5	Chlorothalonil	46079703	5003354	n.d.	n.d.	n.d.	3129	1750	5000	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Up-and-down method used; all rats dosed at 1750 mg/kg survived; all dosed at 5000 mg/kg died.

4	100-1221	3.3	D-Alanine, N-(2,6-dimethylphenyl)-N-(methoxyacetyl)-, methyl ester															
	100-1221	33.1	Chlorothalonil	46387403	5004187	n.d.	n.d.	n.d.	>5000	>1750	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Up-and-down method; 4/10 dosed at 5000 mg/kg died. Both rats dosed at 1750 mg/kg survived.
5	100-1231	4.7	Propiconazole															
	100-1231	29.9	Chlorothalonil	46502803	5004348	n.d.	n.d.	n.d.	3129	1750	5000	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Up-and-down method; 5/5 dosed at 5000 mg/kg died; all 3 dosed at 1750 mg/kg survived.
	100-1231	1.2	Fludioxonil															

6	100-1279	33.3	Chlorothalonil	47061003	5007825	n.d.	n.d.	n.d.	2965	1750	5000	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Up-and-down method; 5/6 dosed at 5000 mg/kg died; 1/5 dosed at 1750 mg/kg died.
	100-1279	3.33	Mandipropamide Technical															
7	100-1315	45	Chlorothalonil	47405203	5009524	n.d.	n.d.	n.d.	3129	1750	5000	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Limit test (5000 mg/kg) and up-and-down method; 6/8 dosed at 5000 mg/kg died; none of the 3 dosed at 1750 mg/kg died.
	100-1315	3	Azoxystrobin															
8	100-1347	38.5	Chlorothalonil	cited 46079703 submitted for 100-1192											Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	
	100-1347	2.9	Propiconazole															

9	100-1364	0.11	Acibenzolar-s-methyl															
	100-1364	53.94	Chlorothalonil	47900003	5012752	n.d.	n.d.	n.d.	reported: 3045; EPA review: 1750	925.2	6570	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Up-and-down method; no stopping criteria met
10	228-638	16.66	Thiophanate-methyl															
	228-638	50	Chlorothalonil	cited 42670002 submitted for 48234-7											Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	
11	228-639	18	Thiophanate-methyl															
	228-639	72	Chlorothalonil	cited 45038501 submitted for 1001-72											Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	
12	352-833	22.3	Chlorothalonil	47737316	5013217	n.d.	n.d.	n.d.	5000	4060	>20000	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Up-and-down method; 2/7 dosed at 5000 mg/kg died.
	352-833	8.9	Penthiopyrad															

13	432-1486	40	Chlorothalonil	47457903	5009513	n.d.	n.d.	n.d.	2000	n.d.	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Limit test at 2000 mg/kg; 1/5 females died.
	432-1486	5	Triticonazole															
14	577-544	0.3	Tributyltin oxide (NO INERT USE)															
	577-544	0.7	Chlorothalonil	2 limit tests: 45105603 & 45105604	None	>5000 and >5000	n.d.	n.d.	>5000 and >5000	n.d.	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Two limit tests at 5000 mg/kg; in each 0/5 M & 0/5 F died.
15	1001-72	18	Thiophanate-methyl															
	1001-72	72	Chlorothalonil	45038501	5001479	>5000	n.d.	n.d.	>500; <5000	n.d.	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	At 500 mg/kg 0/5 females died; at 5000 mg/kg 0/5 males & 3/5 females died.
16	1022-583	14.7	Methylene bis(thiocyanate)															
	1022-583	14.5	Chlorothalonil	42976104	5006185	680	no C.L.	no C.L.	353.4	246.7	506.2	485.6	285.3	826.8	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Dose levels: 250, 500, 1500 & 5050 mg/kg.

17	1258-1270	6	1,3,5-Triazine-2,4-diamine, N-cyclopropyl-N'-(1,1-dimethylethyl)-6-(methylthio)-															
	1258-1270	47	Chlorothalonil	45507302	None	>500	n.d.	n.d.	n.d.	>500; <2000	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	0/3F ar 200 mg/kg died; 0/3F & 0/3M at 500 mg/kg died; 3/3F at 2000 mg/kg died.
18	1529-47	20.06	Chlorothalonil	46231303	None	2407	689	8403	2588	1961	3416	2500	1033	6054	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	5/5 males & 5/5 females died at 5000 mg/kg.
	1529-47	10.1	Carbamic acid, butyl-, 3-iodo-2-propynyl ester															
19	1529-48	48	Chlorothalonil	46230803	None	2400	1098	5249	1897	1630	2208	2131	1759	2581	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Doses (given to 5M & 5F) were 900, 1800, 2000, 3600 and 5000 mg/kg.

	1529-48	5.89	1,3,5-Triazine-2,4-diamine, N-cyclopropyl-N'-(1,1-dimethylethyl)-6-(methylthio)-															
20	5905-472	27.25	Sulfur															
	5905-472	19.15	Chlorothalonil	120333	5008604	>5020	n.a.	n.a.	>5020	n.a.	n.a.	>5020	n.a.	n.a.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	1/5M & 1/5F died after dosing at 5020 mg/kg.
21	9198-227	7.5	Pentachloronitrobenzene															
	9198-227	0.62	Propiconazole															
	9198-227	3.9	Chlorothalonil	46440703	5003857	n.d.	n.d.	n.d.	>5000	n.d.	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	3 females dosed at 5000 mg/kg; all survived.
22	9779-337	27.25	Sulfur															
	9779-337	19.15	Chlorothalonil	43622601	5004331	>5000	n.d.	n.d.	>5000	n.d.	n.d.	>5000	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	At 5000 mg/kg 0/5M & 2/5F died; at 7000 mg/kg 2/5M & 3/5F died; at 9000 mg/kg 1/5M &

																		4/5F died.
23	42519-30	38.9	Mono- and di-potassium salts of phosphorous acid															
	42519-30	16.7	Chlorothalonil	47333105	5008828	n.d.	n.d.	n.d.	>5000	n.d.	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	At 5000 mg/kg 0/3F died.
24	42519-31	38.9	Mono- and di-potassium salts of phosphorous acid															
	42519-31	16.7	Chlorothalonil	No study	n.a.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Registered on basis of similarity to 42519-30.
25	48234-7	50	Chlorothalonil	42670002	5007135	>6300	n.d.	n.d.	>6300	n.d.	n.d.	>6300	m.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	At 5000 mg/kg 1/5M & 0/5F died; at 6300 mg/kg 0/5M & 0/5 died.
	48234-7	16.66	Thiophanate-methyl															

26	55146-81	72	Chlorothalonil	No study	n.a.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Registered on basis of similarity to 100-800.
	55146-81	4.4	D-Alanine, N-(2,6-dimethylphenyl)-N-(methoxyacetyl)-, methyl ester															
27	60063-47	31.51	Chlorothalonil	48515005	5013531	>2000	n.d.	n.d.	>2000	n.d.	n.d.	>2000	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	At 2000 mg/kg 1/5M & 0/5F died.
	60063-47	4.2	Cymoxanil															
28	60063-49	30.51	Chlorothalonil	48656704	5013656	n.d.	n.d.	n.d.	>5000	n.d.	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	At 5000 mg/kg 1/4F died.
	60063-49	8.47	Tebuconazole															
29	60063-50	30.51	Chlorothalonil	48656704 (same study as for 60063-49)	5013656 (same TXR as for 60063-49)	n.d.	n.d.	n.d.	>5000	n.d.	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	At 5000 mg/kg 1/4F died.
	60063-50	8.47	Tebuconazole															

30	62190-30	15.5	Chlorothalonil	47734803	None	n.d.	n.d.	n.d.	98	55	175	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Up-and-down method; at 55 mg/kg 0/3F died; at 175 mg/kg 3/3F died.
	62190-30	14.7	Methylene bis(thiocyanate)															
31	66330-379	2.44	Fluoxastrobin															
	66330-379	38.4	Chlorothalonil	47294603	5008580	n.d.	n.d.	n.d.	1750	1239	4450	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Up-and-down method: at 175 mg/kg 0/1F died; at 550 mg/kg 0/2F died; at 1750 mg/kg 1/4F died; at 5000 mg/kg 3/3F died.
32	67071-2	14.7	Chlorothalonil	43793301	5000700	>5000	n.d.	n.d.	>5000	n.d.	n.d.	>5000	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	At 5000 mg/kg 0/5M & 0/5F died.
	67071-2	19	Diuron															
33	67071-15	19	Diuron															

	67071-15	14.7	Chlorothalonil	43793301 (same study as for 67071-2)	5000700 (same TXR as for 67071-2)	>5000	n.d.	n.d.	>5000	n.d.	n.d.	>5000	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	From 67071-2: At 5000 mg/kg 0/5M & 0/5F died.
34	67071-17	19	Diuron															
	67071-17	6	Octhilinone															
	67071-17	8.8	Chlorothalonil	45143801	None	>1310; <2000	n.d.	n.d.	1310	1011	1698	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	At 1000 0/5F died; at 1310 0/5M died; at 1500 4/5F died; at 2000 4/5M & 4/5F died.
35	67071-39	11.8	Chlorothalonil	45143801 (same study as for 67071-17)	None	>1310; <2000	n.d.	n.d.	1310	1011	1698	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	From 67017-17: at 1000 0/5F died; at 1310 0/5M died; at 1500
	67071-39	6	Octhilinone															
	67071-39	19	Diuron															
36	70506-254	50	Chlorothalonil	No study; registered as a me-too of 48234-7											Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	

	70506-254	16.66	Thiophanate-methyl															
37	71711-2	10.3	Flutolanil															
	71711-2	38.6	Chlorothalonil	43594004	11705	3940	3050	5700	1570	1140	2410	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	
38	71711-24	1.8	Propiconazole															
	71711-24	17.2	Flutolanil															
	71711-24	21.65	Chlorothalonil	46328501	5003996	n.d.	n.d.	n.d.	>5000	n.d.	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	At 5000 mg/kg 0/3F died.
39	74075-1	28.3	Chlorothalonil	45464702	None	>2000	n.d.	n.d.	>2000	n.d.	n.d.	n.d.	n.d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	
	74075-1	12.08	Diiodomethyl p-tolyl sulfone															
40	83070-2	50	Chlorothalonil	No study											Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	

	83070-2	16.66	Thiophanate-methyl	No study; probably registered as a me-too of 70506-254	None	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.,d.	n.d.	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	Insufficient data to establish different toxicity	