

US EPA ARCHIVE DOCUMENT

PMS.D / TSB



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 5 1988

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Dietary Exposure Analysis of Maneb and Maneb Derived
Ethylenethiourea

FROM: J. Robert Tomerlin, Ph.D. *J.R. Tomerlin*
Tolerance Assessment System Staff
HED/RCB (TS 769C)

and

Susan L. Stanton *Susan L. Stanton*
Tolerance Assessment System Staff
HED/RCB (TS 769C)

THRU: Karl Arne, Ph.D. *KArne*
Branch Senior Scientist
HED/RCB (TS 769C)

TO: Valerie M. Bael, EBDC Fungicide Review Manager
Special Review Branch
Registration Division (TS 767C)

and

Amy Rispin, Director, Science Integration Staff
Hazard Evaluation Division (TS 769C)

Action Requested

Provide TAS routine chronic dietary exposure analyses for maneb and maneb derived ethylenethiourea (ETU) and an oncogenic risk assessment for maneb derived ETU as part of the EBDC/ETU Special Review Process.

Discussion

1. Toxicology Endpoints: A routine chronic TAS analysis was conducted with a reference dose (PADI) of 0.005 mg/kg body weight/day, based upon a NOEL of 5.0 mg/kg body weight/day and a safety factor of 1000 from a 6 month monkey feeding study. This value has been approved (10/15/86) and later reassessed (9/28/87) by TOX Branch and verified by Agency (10/14/87) reference dose committees.

Dietary Exposure Analysis for Maneb
and Maneb Derived ETU, page 2

A routine chronic TAS analysis was also conducted for mane b derived ETU using a reference dose (PADI) of 0.00008 mg/kg body weight/day, based upon an LEL (NOEL has not been established) of 0.25 mg/kg body weight/day and a safety factor of 3000 from a 2 year rat feeding study. This value was approved (9/26/88) and reassessed (10/30/87) by the TOX Branch reference dose committee. The value was originally verified (12/9/86) by the Agency reference dose committee; the Agency subsequently deferred a decision pending review of data from a monkey study (2/25/88).

Ethylenethiourea has been implicated in oncogenesis in rats and mice and has been categorized as a Class B2 oncogen (probable human carcinogen). An upper bound potency estimate (Q_1^*) of $0.14 \text{ (mg/kg/day)}^{-1}$ has been assigned to ETU (personal communication, J. Hauswirth).

2. Residue Values Used in the TAS Analyses: Maneb tolerances used in the analysis were the published tolerances from 40 CFR 180.110; no pending or new action tolerances were included in the analysis. Per cent crop treated (Pelletier and Ballard memo, 5/27/88) and anticipated residue (AR) data (Hummel memo, 6/30/88) were also used for the mane b analysis. A per cent crop treated value of 10 was used for all commodities for which the estimated per cent crop treated was less than 10 (personal communication, G. Ballard). Ten per cent of meat and milk were assumed to contain mane b residues, a figure extrapolated from residue data for animal feed commodities (Hummel memo, 6/30/88). Residue data were unavailable for some food commodities and residues from these commodities were extrapolated from similar crops having similar usage patterns. For example, mane b residues on collards were assumed to be the same as on spinach (Hummel memo, 6/30/88). A summary of the residue information used in the mane b analysis is attached as Table 1. NOTE: AR data were available for meat, milk, and poultry, for which tolerances have not been established.

Per cent crop treated (Pelletier and Ballard memo, 5/27/88) and AR data (Hummel memo, 6/30/88) were used to conduct the analysis for mane b derived ETU. A summary of the residue information used in the mane b derived ETU analysis is attached as Table 1a. NOTE: the tolerance values in Table 1a are for mane b and should be ignored. Tolerance values were included solely to allow the TAS AR analysis to execute properly.

3. Routine Chronic Analysis for Maneb: The TAS routine chronic analysis estimates the Theoretical Maximum Residue Contribution (TMRC) for the U.S. population and 22 population subgroups. The mane b TMRC, assuming mane b residues at tolerance levels and 100 per cent crop treated, for the U.S. population is 0.030265 mg/kg body weight/day, which represents 605% of the PADI. Non-nursing

Dietary Exposure Analysis for Maneb
and Maneb Derived ETU, page 3

infants and children aged 1 to 6 had TMRCs of 0.1145 mg/kg body weight/day (2290% of the ADI) and 0.064401 mg/kg body weight/day (1288% of the ADI), respectively.

The analysis incorporating both AR and per cent crop treated data significantly reduced exposure to mane. The Anticipated Residue Contribution (ARC) for the U.S. population is 0.003652 mg/kg body weight/day, representing 73% of the PADI. The ARCs for non-nursing infants and children aged 1 to 6 were 0.015801 mg/kg body weight/day (316% of the ADI) and 0.006509 mg/kg body weight/day (130% of the ADI), respectively. The TMRC and ARC exposure summary for mane is attached as Table 2. The contribution of selected agricultural commodities to the total mane ARC for three population subgroups is shown in the table below.

Anticipated Residue Contributions of Selected Raw
Agricultural Commodities for Mane

	U.S. Population	Non-Nursing Infants	Children 1 to 6
Peaches	1.035544 ^a 20.7 ^b	10.016346 200.3	2.268672 45.4
Spinach	0.543267 10.9	2.304994 46.1	0.682781 13.7
Tomatoes	0.369370 7.4	0.167824 3.4	0.525871 10.5
Apples	0.348097 7.0	0.812710 16.3	0.961593 19.2
Lettuce	0.339591 6.8	0.015111 0.3	0.287229 5.7
Brassica Leafy Veggies	0.278880 5.6	0.163594 3.3	0.380194 7.6
Celery	0.237749 4.8	0.091467 1.8	0.311723 6.2
Root/Tuber Veggies	0.146938 2.9	0.743719 14.9	0.253349 5.1

Table Continued on Next Page

Dietary Exposure Analysis for Maneb
and Maneb Derived ETU, page 4

Anticipated Residue Contribution ... Maneb, Continued

	U.S. Population	Non-Nursing Infants	Children 1 to 6
Apricots	0.086673 1.7	0.924857 18.5	0.256501 5.1
Milk	0.068470 1.4	0.424281 8.5	0.201115 4.0
Grapes	0.045690 ^a 0.9 ^b	0.028619 0.6	0.137249 2.7
Bulb Vegetables	0.032679 0.7	0.011851 0.2	0.053818 1.1
Cucurbits	0.024009 0.5	0.029514 0.6	0.034549 0.7
Red Meat	0.016668 0.3	0.015066 0.3	0.030917 0.6
Beans	0.011977 0.2	0.025931 0.5	0.020965 0.4
Poultry	0.006170 0.1	0.012776 0.3	0.012519 0.3
Eggs	0.004063 0.1	0.004230 0.1	0.009100 0.2
Other ^c	0.056206 1.1	0.009045 0.2	0.081593 1.6
Total	3.652041 73.0	15.801935 316.0	6.509738 130.2

^aARC in ug/kg body weight/day

^bARC expressed as per cent of the PADI

^cAlmonds, bananas, cranberries, eggplant, endive, figs, nectarines, papaya, peppers, rhubarb, and sweet corn

4. Routine Chronic Analysis for Maneb Derived ETU: The Tas routine chronic analysis for mane b derived ETU using ARs and per

cent crop treated calculated an ARC for the U.S. population of 0.000462 mg/kg body weight/day (578% of the PADI). The two most highly exposed population subgroups, non-nursing infants and children aged 1 to 6, had ARCs of 0.001845 mg/kg body weight/day (2306% of the ADI) and 0.000903 mg/kg body weight/day (1130% of the PADI), respectively. The ARC summary for mane b derived ETU is attached as Table 2a.

Oncogenic risk attributable to mane b derived ETU was calculated only for the overall U.S. population, in accordance with HED policy. Risk was estimated according to the relationship:

$$\text{Risk} = \text{Exposure} \times Q_1^*$$

where Exposure is the ARC. The ARCs of selected commodities and commodity groups with their associated oncogenic risk is shown in the table below.

Anticipated Residue Contribution of Selected Raw Agricultural Commodities and Associated Oncogenic Risk for Maneb Derived ETU

	U. S. Population	Non-Nursing Infants	Children 1 to 6	Oncogenic ^a Risk
Spinach	0.093926 ^b 117.4 ^c	0.464214 580.3	0.116723 145.9	1.3 X 10 ⁻⁵
Grapes	0.093348 116.7	0.109382 136.7	0.210641 263.3	1.3 X 10 ⁻⁵
Brassica Leafy Veggies	0.056283 70.4	0.034020 42.5	0.077438 96.8	7.9 X 10 ⁻⁶
Milk	0.052670 65.8	0.326369 408.0	0.154704 193.4	7.4 X 10 ⁻⁶
Root/Tuber Veggies.	0.037753 47.2	0.201936 252.4	0.068624 85.8	5.3 X 10 ⁻⁶
Peaches	0.033656 42.1	0.349300 436.6	0.074016 92.5	4.7 X 10 ⁻⁶

Table Continued on Next Page

Dietary Exposure Analysis for Maneb
and Maneb Derived ETU, page 6

Anticipated Residue Contribution ... Maneb Derived ETU, Continued

	U. S. Population	Non-Nursing Infants	Children 1 to 6	Oncogenic ^a Risk
Apples	0.017536 21.9	0.177105 221.4	0.060081 75.1	2.5 X 10 ⁻⁶
Beans	0.016504 20.6	0.036370 45.5	0.028916 36.1	2.3 X 10 ⁻⁶
Celery	0.012330 15.4	0.016297 20.4	0.018588 23.2	1.7 X 10 ⁻⁶
Apricots	0.009311 11.6	0.099756 124.7	0.027515 34.4	1.3 X 10 ⁻⁶
Bulb Vegetables	0.008596 10.7	0.003779 4.7	0.015845 19.8	1.2 X 10 ⁻⁶
Lettuce	0.007275 ^b 9.1 ^c	0.000669 0.8	0.007830 9.8	1.0 X 10 ⁻⁶
Poultry	0.004552 5.7	0.009471 11.8	0.009274 11.6	6.4 X 10 ⁻⁷
Red Meat	0.004302 5.4	0.004592 5.7	0.007888 9.9	6.0 X 10 ⁻⁷
Tomatoes	0.004256 5.3	0.003282 4.1	0.008415 10.5	6.0 X 10 ⁻⁷
Eggs	0.003484 4.4	0.003626 4.5	0.007799 9.7	4.9 X 10 ⁻⁷
Cucurbits	0.000970 1.2	0.001841 2.3	0.001311 1.6	1.4 X 10 ⁻⁷
Other ^d	0.005317 6.6	0.003148 3.9	0.008029 10.0	7.4 X 10 ⁻⁷
Total	0.462069 577.6	1.845157 2306.4	0.903637 1129.5	6.5 X 10 ⁻⁵

^aOncogenic risk is estimated for the U.S. population only, in accordance with HED policy

^bARC in ug/kg body weight/day

^cARC expressed as per cent of the PADI

^dAlmonds, bananas, cranberries, eggplant, endive, figs, nectarines, papaya, peppers, rhubarb, and sweet corn

5. Several factors must be considered when interpreting this TAS analysis. A NOEL has not been established for mane b derived ETU. A relatively high safety factor has been applied to an LEL to arrive at a PADI. Consequently, the PADI used as the standard to which the mane b derived ETU exposure figures are compared may change if additional toxicology data are received.

Note that eleven food commodities or commodity groups have estimated oncogenic risks exceeding 1×10^{-6} . Therefore, oncogenic risk is distributed over a range of foods for which anticipated residues adjusted for per cent crop treated were taken into consideration. Of these, grapes, root and tuber vegetables, peaches, apples, celery, apricots, and bulb vegetables had estimated per cent crop treated less than 10, which was considered to be 10 in these analyses.

Exposure to mane b derived ETU was relatively high for milk, which contributed 11 per cent of the total ARC and consequently 11 per cent of the total oncogenic risk. Ten per cent of the milk was assumed to contain mane b derived ETU residues. This figure was derived from the per cent of apples treated with mane b.

Finally, the analyses were conducted assuming that mane b and mane b derived ETU residues were uniformly present in the food commodities at levels defined as the product of the anticipated residue and the per cent crop treated.

Attachments

cc: J. R. Tomerlin (RCB), S. Hummel (RCB), TAS File, Maneb SF, ETU SF, TOX, Circulation (7), RF

Table 1 (Cont.)

FOOD CODE	FOOD	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS	
				IPADI	SF --> 1000			
Maneb		6mo feeding- monkey	Increased thyroid weight, inhibition of I-131 uptake at 3000 ppm.	OPP RD= 0.005000	Chronic feeding- dog	TOX complete 10/15/86.		
Caswell #539		NOEL= 5.0000 mg/kg		EPA RD= 0.005000	Chronic feeding- rat	TOX reassess 9/28/87.		
CAS No. 12427-38-2		100.00 ppm			Reproduction	EPA verified 10/14/87		
A.I. CODE: 014505		LEL= 15.0000 mg/kg	No adequate oncogenicity data available (see ETU).		Teratology- 2 species	WHO last reviewed 1980; see Mancozeb.		
CFR No. 180.110		300.00 ppm						
		ONCO: Undetermined.						
FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
06002AB	BANANAS-FRESH	21 COOKED-NFS	2F1257	P 0.500000	0.050000		10.00	0.005000
06002AB	BANANAS-FRESH	31 COOKED-FRESH OR CANNED	2F1257	P 0.500000	0.050000		10.00	0.005000
06002DA	BANANAS-DRIED	10 RAW-FRESH OR NFS	2F1257	P 0.500000	0.050000		10.00	0.005000
06002DA	BANANAS-DRIED	21 COOKED-NFS	2F1257	P 0.500000	0.050000		10.00	0.005000
06005AA	FIGS	10 RAW-FRESH OR NFS	21	P 7.000000	0.950000		10.00	0.095000
06005AA	FIGS	21 COOKED-NFS	21	P 7.000000	0.950000		10.00	0.095000
06005AA	FIGS	22 COOKED-FRESH-BAKED	21	P 7.000000	0.950000		10.00	0.095000
06010AA	PAPAYAS-UNSPEC	00 NOT SPECIFIED (NO CONSUMPTION)	6F0485	P 10.000000	2.800000		10.00	0.280000
06010AB	PAPAYAS-PULP	10 RAW-FRESH OR NFS	6F0485	P 10.000000	2.800000		10.00	0.280000
06010AB	PAPAYAS-PULP	51 COOKED-CANNED	6F0485	P 10.000000	2.800000		10.00	0.280000
06010DA	PAPAYAS-DRIED	10 RAW-FRESH OR NFS	6F0485	P 10.000000	2.800000		10.00	0.280000
06010JA	PAPAYAS-JUICE	10 RAW-FRESH OR NFS	6F0485	P 10.000000	2.800000		10.00	0.280000
06016AA	PLANTAINS	21 COOKED-NFS	2F1257	P 0.500000	0.050000		10.00	0.005000
06016AA	PLANTAINS	23 COOKED-FRESH-BOILED	2F1257	P 0.500000	0.050000		10.00	0.005000
06016AA	PLANTAINS	25 COOKED-FRESH-FRIED	2F1257	P 0.500000	0.050000		10.00	0.005000
08048DA	PAPRIKA	00 NOT SPECIFIED (NO CONSUMPTION)	21	P 7.000000	5.000000		10.00	0.500000
10002AA	CANTALOUPE-UNSP	10 RAW-FRESH OR NFS	2F1256	P 4.000000	1.100000		10.00	0.110000
10002AB	CANTALOUPE-PULP	00 NOT SPECIFIED (NO CONSUMPTION)	2F1256	P 4.000000	1.100000		10.00	0.110000
10002AB	CANTALOUPE-PULP	10 RAW-FRESH OR NFS	2F1256	P 4.000000	1.100000		10.00	0.110000
10003AA	CASABAS	21 COOKED-NFS	2F1256	P 4.000000	1.100000		10.00	0.110000
10004AA	CRENSHAW	10 RAW-FRESH OR NFS	2F1256	P 4.000000	1.100000		10.00	0.110000
10005AA	HONEYDEW MELONS	00 NOT SPECIFIED (NO CONSUMPTION)	2F1256	P 4.000000	1.100000		10.00	0.110000
10007AA	PERSON MELONS	10 RAW-FRESH OR NFS	2F1256	P 4.000000	1.100000		10.00	0.110000
10008AA	WATERMELON	00 NOT SPECIFIED (NO CONSUMPTION)	2F1256	P 4.000000	1.100000		10.00	0.110000
10008AA	WATERMELON	21 COOKED-NFS	2F1256	P 4.000000	1.100000		10.00	0.110000
10010AA	CUCUMBERS	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.530000		10.00	0.053000
10010AA	CUCUMBERS	11 RAW-FRESH-PICKLED, CORNED, OR CURED	2F1256	P 4.000000	0.530000		10.00	0.053000
10010AA	CUCUMBERS	21 COOKED-NFS	2F1256	P 4.000000	0.530000		10.00	0.053000
10011AA	PUMPKIN	21 COOKED-NFS	329	P 7.000000	1.100000		10.00	0.110000
10011AA	PUMPKIN	22 COOKED-FRESH-BAKED	329	P 7.000000	1.100000		10.00	0.110000
10011AA	PUMPKIN	62 COOKED-FRESH OR FROZEN-BAKED	329	P 7.000000	1.100000		10.00	0.110000
10013AA	SQUASH-SUMMER	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.670000		10.00	0.067000
10013AA	SQUASH-SUMMER	21 COOKED-NFS	2F1256	P 4.000000	0.670000		10.00	0.067000
10014AA	SQUASH-WINTER	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.670000		10.00	0.067000
10014AA	SQUASH-WINTER	21 COOKED-NFS	2F1256	P 4.000000	0.670000		10.00	0.067000
10014AA	SQUASH-WINTER	31 COOKED-FRESH OR CANNED	2F1256	P 4.000000	0.670000		10.00	0.067000
10017AA	BITTER MELON	21 COOKED-NFS	2F1256	P 4.000000	0.670000		10.00	0.067000
10020AA	TOMEGOURD	00 NOT SPECIFIED (NO CONSUMPTION)	2F1256	P 4.000000	0.670000		10.00	0.067000
11001AA	EGGPLANT	10 RAW-FRESH OR NFS	21	P 7.000000	4.300000		10.00	0.430000
11001AA	EGGPLANT	21 COOKED-NFS	21	P 7.000000	1.400000		10.00	0.140000

Table 1. (Con't)

FOOD CODE	FOOD	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS	
				PADI	SF -->			
	Maneb	6mo feeding- monkey	Increased thyroid weight, inhibition of I-131 uptake at 3000 ppm.	1000	1000	Chronic feeding- dog	TOX complete 10/15/86.	
	Caswell #539	NOEL= 5.0000 mg/kg		OPP RfD= 0.005000		Chronic feeding- rat	TOX reassess 9/28/87.	
	CAS No. 12427-38-2	100.00 ppm		EPA RfD= 0.005000		Reproduction	EPA verified 10/14/87	
	A.I. CODE: 014505	LEL= 15.0000 mg/kg				Teratology- 2 species		
	CFR No. 180.110	300.00 ppm	No adequate oncogenicity data available (see ETU).				WHO last reviewed 1980; see Mancozeb.	
	ONCO: Undetermined.							
FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
11001AA	EGGPLANT	25 COOKED-FRESH-FRIED	21	P 7.000000	1.400000		10.00	0.140000
11003AA	PEPPERS, SWEET	10 RAW-FRESH OR NFS	21	P 7.000000	5.000000		10.00	0.500000
11003AA	PEPPERS, SWEET	21 COOKED-NFS	21	P 7.000000	5.000000		10.00	0.500000
11003AB	CHILI PEPPERS	00 NOT SPECIFIED (NO CONSUMPTION)	21	P 7.000000	5.000000		10.00	0.500000
11003AD	PEPPERS-OTHER	10 RAW-FRESH OR NFS	21	P 7.000000	5.000000		10.00	0.500000
11003AD	PEPPERS-OTHER	21 COOKED-NFS	21	P 7.000000	5.000000		10.00	0.500000
11003AD	PEPPERS-OTHER	51 COOKED-CANNED	21	P 7.000000	5.000000		10.00	0.500000
11004AA	PIMIENTOS	10 RAW-FRESH OR NFS	21	P 7.000000	5.000000		10.00	0.500000
11004AA	PIMIENTOS	21 COOKED-NFS	21	P 7.000000	5.000000		10.00	0.500000
11004AA	PIMIENTOS	31 COOKED-FRESH OR CANNED	21	P 7.000000	5.000000		10.00	0.500000
11005AA	TOMATOES-WHOLE	10 RAW-FRESH OR NFS	2F1256	P 4.000000	4.300000		20.00	0.860000
11005AA	TOMATOES-WHOLE	21 COOKED-NFS	2F1256	P 4.000000	1.400000C		20.00	0.280000
11005AA	TOMATOES-WHOLE	31 COOKED-FRESH OR CANNED	2F1256	P 4.000000	1.400000C		20.00	0.280000
11005JA	TOMATOES-JUICE	10 RAW-FRESH OR NFS	2F1256	P 4.000000	1.400000C		20.00	0.280000
11005JA	TOMATOES-JUICE	21 COOKED-NFS	2F1256	P 4.000000	1.400000C		20.00	0.280000
11005RA	TOMATOES-PUREE	10 RAW-FRESH OR NFS	2F1256	P 4.000000	1.400000C		20.00	0.280000
11005RA	TOMATOES-PUREE	21 COOKED-NFS	2F1256	P 4.000000	1.400000C		20.00	0.280000
11005RA	TOMATOES-PUREE	31 COOKED-FRESH OR CANNED	2F1256	P 4.000000	1.400000C		20.00	0.280000
11005RA	TOMATOES-PUREE	32 COOKED-FRESH OR CANNED-BAKED	2F1256	P 4.000000	1.400000C		20.00	0.280000
11005RA	TOMATOES-PUREE	51 COOKED-CANNED	2F1256	P 4.000000	1.400000C		20.00	0.280000
11005TA	TOMATOES-PASTE	21 COOKED-NFS	2F1256	P 4.000000	1.400000C		20.00	0.280000
11005TA	TOMATOES-PASTE	22 COOKED-FRESH-BAKED	2F1256	P 4.000000	1.400000C		20.00	0.280000
11005TA	TOMATOES-PASTE	31 COOKED-FRESH OR CANNED	2F1256	P 4.000000	1.400000C		20.00	0.280000
11005UA	TOMATOES-CATSUP	21 COOKED-NFS	2F1256	P 4.000000	1.400000C		20.00	0.280000
13002AA	CELERY	10 RAW-FRESH OR NFS	2F1256	P 5.000000	39.000000		10.00	3.900000
13002AA	CELERY	21 COOKED-NFS	2F1256	P 5.000000	39.000000		10.00	3.900000
13005AA	BROCCOLI	21 COOKED-NFS	183	P 10.000000	12.000000		25.00	3.000000
13005AA	BROCCOLI	31 COOKED-FRESH OR CANNED	183	P 10.000000	12.000000		25.00	3.000000
13005AA	BROCCOLI	63 COOKED-FRESH OR FROZEN-BOILED	183	P 10.000000	12.000000		25.00	3.000000
13006AA	BRUSSEL SPROUTS	21 COOKED-NFS	183	P 10.000000	12.000000		25.00	3.000000
13006AA	BRUSSEL SPROUTS	23 COOKED-FRESH-BOILED	183	P 10.000000	12.000000		25.00	3.000000
13007AA	CABBAGE	10 RAW-FRESH OR NFS	156	P 10.000000	0.510000		25.00	0.127500
13007AA	CABBAGE	11 RAW-FRESH-PICKLED, CORNED, OR CURED	156	P 10.000000	0.510000		25.00	0.127500
13007AA	CABBAGE	21 COOKED-NFS	156	P 10.000000	0.510000		25.00	0.127500
13008AA	CAULIFLOWER	10 RAW-FRESH OR NFS	183	P 10.000000	0.510000		25.00	0.127500
13008AA	CAULIFLOWER	21 COOKED-NFS	183	P 10.000000	0.510000		25.00	0.127500
13009AA	COLLARDS	51 COOKED-CANNED	156	P 10.000000	26.000000		10.00	2.600000
13009AA	COLLARDS	63 COOKED-FRESH OR FROZEN-BOILED	156	P 10.000000	26.000000		10.00	2.600000
13010AA	CABBAGE-CHINESE	10 RAW-FRESH OR NFS	156	P 10.000000	0.510000		25.00	0.127500
13010AA	CABBAGE-CHINESE	21 COOKED-NFS	156	P 10.000000	0.510000		25.00	0.127500

Table 1 (Con't)

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 539 DATE: 06/28/88 PAGE: 4

FOOD CODE	FOOD	FOOD FORM	EFFECTS	PADI SF -->	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS	TOLERANCE (ppm)	PET. #	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
Maneb	Caswell #539	6mo feeding- monkey	Increased thyroid weight, inhibition of I-131 uptake at 3000 ppm.	1000	Chronic feeding- dog	TOX complete 10/15/86.							
	CAS No. 12427-38-2	NOEL= 5.0000 mg/kg		OPP RfD= 0.005000	Chronic feeding- rat	TOX reassess 9/28/87.							
	A.I. CODE: 014505	LEL= 100.00 ppm		EPA RfD= 0.005000	Reproduction	EPA verified 10/14/87							
	CFR No. 180.110	ONCO: Undetermined.	No adequate oncogenicity data available (see ETU).		Teratology- 2 species								
													WHO last reviewed 1980; see Mancozeb.
FOOD CODE	FOOD	FOOD FORM	EFFECTS	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)				
13011AA	KALE	63 COOKED-FRESH OR FROZEN-BOILED		56	P 10.00000	13.000000		10.00	1.300000				
13012AA	KOHLRABI	21 COOKED-NFS		183	P 10.00000	12.000000		10.00	1.200000				
13013AA	LETTUCE-LEAFY	10 RAW-FRESH OR NFS		156	P 10.00000	14.000000		32.00	4.480000				
13015AA	ENDIVE	10 RAW-FRESH OR NFS		156	P 10.00000	14.000000		10.00	1.400000				
13015AA	ENDIVE	21 COOKED-NFS		156	P 10.00000	14.000000		10.00	1.400000				
13016AA	FENNEL	00 NOT SPECIFIED (NO CONSUMPTION)		2F1256	P 5.000000	39.000000		10.00	3.900000				
13020AA	LETTUCE-UNSPEC	10 RAW-FRESH OR NFS		156	P 10.00000	14.000000		32.00	4.480000				
13021AA	MUSTARD GREENS	21 COOKED-NFS		156	P 10.00000	31.000000		10.00	3.100000				
13021AA	MUSTARD GREENS	63 COOKED-FRESH OR FROZEN-BOILED		156	P 10.00000	31.000000		10.00	3.100000				
13023AA	RHUBARB	10 RAW-FRESH OR NFS		225	P 10.00000	39.000000		10.00	3.900000				
13023AA	RHUBARB	21 COOKED-NFS		225	P 10.00000	39.000000		10.00	3.900000				
13023AA	RHUBARB	31 COOKED-FRESH OR CANNED		225	P 10.00000	39.000000		10.00	3.900000				
13023AA	RHUBARB	62 COOKED-FRESH OR FROZEN-BAKED		225	P 10.00000	39.000000		10.00	3.900000				
13024AA	SPINACH	10 RAW-FRESH OR NFS		156	P 10.00000	26.000000		48.00	12.480000				
13024AA	SPINACH	21 COOKED-NFS		156	P 10.00000	26.000000		48.00	12.480000				
13024AA	SPINACH	31 COOKED-FRESH OR CANNED		156	P 10.00000	26.000000		48.00	12.480000				
13026AA	TURNIPS-TOPS	10 RAW-FRESH OR NFS		156	P 10.00000	29.000000		10.00	2.900000				
13026AA	TURNIPS-TOPS	21 COOKED-NFS		156	P 10.00000	29.000000		10.00	2.900000				
13026AA	TURNIPS-TOPS	31 COOKED-FRESH OR CANNED		156	P 10.00000	29.000000		10.00	2.900000				
13045AA	LETTUCE-HEAD	10 RAW-FRESH OR NFS		156	P 10.00000	4.100000		32.00	1.312000				
13045AA	LETTUCE-HEAD	21 COOKED-NFS		156	P 10.00000	4.100000		32.00	1.312000				
14003AA	CARROTS	10 RAW-FRESH OR NFS		21	P 7.000000	5.000000		10.00	0.500000				
14003AA	CARROTS	21 COOKED-NFS		21	P 7.000000	5.000000		10.00	0.500000				
14003AA	CARROTS	23 COOKED-FRESH-BOILED		21	P 7.000000	5.000000		10.00	0.500000				
14003AA	CARROTS	31 COOKED-FRESH OR CANNED		21	P 7.000000	5.000000		10.00	0.500000				
14003AA	CARROTS	51 COOKED-CANNED		21	P 7.000000	5.000000		10.00	0.500000				
14007AA	GARLIC	10 RAW-FRESH OR NFS		21	P 7.000000	2.900000		10.00	0.290000				
14007AA	GARLIC	21 COOKED-NFS		21	P 7.000000	2.900000		10.00	0.290000				
14007AA	GARLIC	32 COOKED-FRESH OR CANNED-BAKED		21	P 7.000000	2.900000		10.00	0.290000				
14010AA	LEEK	31 COOKED-FRESH OR CANNED		21	P 7.000000	20.000000		10.00	2.000000				
14011AA	ONIONS-DRY-BULB	10 RAW-FRESH OR NFS		21	P 7.000000	2.900000		10.00	0.290000				
14011AA	ONIONS-DRY-BULB	21 COOKED-NFS		21	P 7.000000	2.900000		10.00	0.290000				
14011AA	ONIONS-DRY-BULB	22 COOKED-FRESH-BAKED		21	P 7.000000	2.900000		10.00	0.290000				
14011AA	ONIONS-DRY-BULB	31 COOKED-FRESH OR CANNED		21	P 7.000000	2.900000		10.00	0.290000				
14011DA	ONIONS-DRIED	12 RAW-FRESH-DRIED		21	P 7.000000	2.900000		10.00	0.290000				
14013AA	POTATO(MH)-WHOLE	10 RAW-FRESH OR NFS		21	P 0.100000	0.039000		10.00	0.003900				
14013AA	POTATO(MH)-WHOLE	21 COOKED-NFS		21	P 0.100000	0.039000		10.00	0.003900				
14013AA	POTATO(MH)-WHOLE	22 COOKED-FRESH-BAKED		21	P 0.100000	0.039000		10.00	0.003900				
14013AB	POTATO(MH)-UNSP	22 COOKED-FRESH-BAKED		21	P 0.100000	0.039000		10.00	0.003900				
14013AC	POTATO(MH)-PULP	21 COOKED-NFS		21	P 0.100000	0.039000		10.00	0.003900				

Table 1 (Con't)

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 539

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS	
			PADI	SF -->			
Maneb	6mo feeding- monkey	Increased thyroid weight, inhibition of I-131 uptake at 3000 ppm.	1000	1000	Chronic feeding- dog	TOX complete 10/15/86.	
Caswell #539	NOEL= 5.0000 mg/kg		OPP RfD= 0.005000		Chronic feeding- rat	TOX reassess 9/28/87.	
CAS No. 12427-38-2	100.00 ppm		EPA RfD= 0.005000		Reproduction	EPA verified 10/14/87	
A.I. CODE: 014505	IEL= 15.0000 mg/kg				Teratology- 2 species		
CFR No. 180.110	300.00 ppm	No adequate oncogenicity data available (see ETU).				WHO last reviewed 1980; see Mancozeb.	
	ONCO: Undetermined.						
FOOD CODE	FOOD	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
14013AC	POTATO(WH)-PULP	21	P 0.100000	0.039000		10.00	0.003900
14013AC	POTATO(WH)-PULP	21	P 0.100000	0.039000		10.00	0.003900
14013AC	POTATO(WH)-PULP	21	P 0.100000	0.077000		10.00	0.007700
14013DA	POTATO(WH)-DRY	21	P 0.100000	0.077000C		10.00	0.007700
14013DA	POTATO(WH)-DRY	21	P 0.100000	0.077000C		10.00	0.007700
14013HA	POTATO(WH)-PEEL	21	P 0.100000	0.077000		10.00	0.007700
14017AA	SHALLOTS	21	P 7.000000	6.700000		10.00	0.670000
14019AA	TURNIPS-ROOTS	156	P 7.000000	6.800000		10.00	0.680000
14019AA	TURNIPS-ROOTS	156	P 7.000000	6.800000		10.00	0.680000
15001AA	BEANS-DRY-GRT NO	156	P 7.000000	0.180000		10.00	0.018000
15001AB	BEANS-DRY-KIDNEY	156	P 7.000000	0.180000		10.00	0.018000
15001AB	BEANS-DRY-KIDNEY	156	P 7.000000	0.180000		10.00	0.018000
15001AC	BEANS-DRY-LIMA	156	P 7.000000	0.180000		60.00	0.180000
15001AD	BEANS-DRY-NAVY	156	P 7.000000	0.180000		10.00	0.018000
15001AD	BEANS-DRY-NAVY	156	P 7.000000	0.180000		10.00	0.018000
15001AE	BEANS-DRY-OTHER	156	P 7.000000	0.180000		10.00	0.018000
15001AE	BEANS-DRY-OTHER	156	P 7.000000	0.180000		10.00	0.018000
15001AE	BEANS-DRY-OTHER	156	P 7.000000	0.180000		10.00	0.018000
15001AF	BEANS-DRY-PINTO	156	P 7.000000	0.180000		10.00	0.018000
15002AA	BEANS-SUCC-LIMA	156	P 10.000000	3.100000		60.00	1.860000
15002AA	BEANS-SUCC-LIMA	156	P 10.000000	0.220000		60.00	0.132000
15003AA	BEANS-SUCC-GREEN	156	P 10.000000	0.220000		10.00	0.022000
15003AB	BEANS-SUCC-OTH	156	P 10.000000	3.100000		10.00	0.310000
15003AB	BEANS-SUCC-OTH	156	P 10.000000	0.220000		10.00	0.022000
15003AC	BEANS-SUCC-MAX	156	P 10.000000	0.220000		10.00	0.022000
15005AA	CORN, SWEET	2F1266	P 5.000000	0.020000		12.00	0.002400
15005AA	CORN, SWEET	2F1266	P 5.000000	0.020000		12.00	0.002400
15005AA	CORN, SWEET	2F1266	P 5.000000	0.020000		12.00	0.002400
15013AA	MUNG BEANS	156	P 7.000000	0.180000		10.00	0.018000
15013AA	MUNG BEANS	156	P 7.000000	0.180000		10.00	0.018000
15022AA	BEANS-DRY-BROAD	00	NOT SPECIFIED (NO CONSUMPTION)			10.00	0.018000
15022AB	BEANS-SUCC-BROAD	00	NOT SPECIFIED (NO CONSUMPTION)			10.00	0.310000
15023AA	BEANS-DRY-PIGEON	21	COOKED-NFS	0.180000		10.00	0.018000
15027AA	BEANS-UNSPEC	21	COOKED-NFS	0.220000		10.00	0.022000
15030AA	BEANS-DRY-HYAC	00	NOT SPECIFIED (NO CONSUMPTION)			10.00	0.018000
15030AB	BEANS-SUCC-HYAC	00	NOT SPECIFIED (NO CONSUMPTION)			10.00	0.310000
15031AA	BLKEYE PEAS-DRY	21	COOKED-NFS	0.180000		10.00	0.018000
15032AA	BEANS-DRY	31	COOKED-NFS	0.180000		10.00	0.018000
15032AA	BEANS-DRY	31	COOKED-FRESH OR CANNED	0.180000		10.00	0.018000
16004AA	ONIONS-GREEN	10	RAW-FRESH OR NFS	6.700000		10.00	0.670000

2

Table 1 (Con't)

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			PADI	SF --> 1000		
Maneb	6mo feeding- monkey	Increased thyroid weight, inhibition of I-131 uptake at 3000 ppm.	OPP RED= 0.005000	Chronic feeding- dog	TOX complete 10/15/86.	
Caswell #539	NOEL= 5.0000 mg/kg		EPA RED= 0.005000	Chronic feeding- rat	TOX reassess 9/28/87.	
CAS No. 12427-38-2	LEL= 15.0000 mg/kg			Reproduction	EPA verified 10/14/87	
A.I. CODE: 014505	300.00 ppm	No adequate oncogenicity data available (see ETU).		Teratology- 2 species		
CFR No. 180.110	ONCO: Undetermined.				WHO last reviewed 1980; see Mancozeb.	

FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAs RUN (ppm)
16004AA	ONIONS-GREEN	21 COOKED-NFS	21	P 7.000000	6.700000		10.00	0.670000
16004AA	ONIONS-GREEN	25 COOKED-FRESH-FRIED	21	P 7.000000	6.700000		10.00	0.670000
25002SA	BEEF SUGAR	10 RAW-FRESH OR NFS		P 0.000000	0.200000		10.00	0.020000
25002SA	BEEF SUGAR	21 COOKED-NFS		P 0.000000	0.200000		10.00	0.020000
25002SA	BEEF SUGAR	22 COOKED-FRESH-BAKED		P 0.000000	0.200000		10.00	0.020000
25002SA	BEEF SUGAR	31 COOKED-FRESH OR CANNED		P 0.000000	0.200000		10.00	0.020000
26011AA	GUAR BEANS	00 NOT SPECIFIED (NO CONSUMPTION)	156	P 10.000000	0.180000		10.00	0.018000
270010A	CASTOR BEANS	00 NOT SPECIFIED (NO CONSUMPTION)	156	P 10.000000	0.180000		10.00	0.018000
43058AA	WINE AND SHERRY	10 RAW-FRESH OR NFS	21	P 7.000000	0.410000		10.00	0.041000
43058AA	WINE AND SHERRY	21 COOKED-NFS	21	P 7.000000	0.410000		10.00	0.041000
50000DB	MILK-NON-FAT SOL	10 RAW-FRESH OR NFS		P 0.000000	0.065000		10.00	0.006500
50000DB	MILK-NON-FAT SOL	21 COOKED-NFS		P 0.000000	0.065000		10.00	0.006500
50000DB	MILK-NON-FAT SOL	51 COOKED-CANNED		P 0.000000	0.065000		10.00	0.006500
50000FA	MILK-FAT SOLIDS	10 RAW-FRESH OR NFS		P 0.000000	0.065000		10.00	0.006500
50000FA	MILK-FAT SOLIDS	21 COOKED-NFS		P 0.000000	0.065000		10.00	0.006500
50000FA	MILK-FAT SOLIDS	51 COOKED-CANNED		P 0.000000	0.065000		10.00	0.006500
50000SA	MILK SUG (LACT)	21 COOKED-NFS		P 0.000000	0.065000		10.00	0.006500
50000SA	MILK SUG (LACT)	51 COOKED-CANNED		P 0.000000	0.065000		10.00	0.006500
53001BA	BEEF-MEAT BTP	21 COOKED-NFS		P 0.000000	0.180000		10.00	0.018000
53001BA	BEEF-MEAT BTP	26 COOKED-FRESH-PICKLED, CORNED, OR CURED		P 0.000000	0.180000		10.00	0.018000
53001BB	BEEF-OTH ORGAN	21 COOKED-NFS		P 0.000000	0.180000		10.00	0.018000
53001BB	BEEF-OTH ORGAN	51 COOKED-CANNED		P 0.000000	0.180000		10.00	0.018000
53001DA	BEEF-DRIED	21 COOKED-NFS		P 0.000000	0.060000		10.00	0.006000
53001FA	BEEF-FAT	10 RAW-FRESH OR NFS		P 0.000000	0.100000		10.00	0.010000
53001FA	BEEF-FAT	21 COOKED-NFS		P 0.000000	0.100000		10.00	0.010000
53001FA	BEEF-FAT	22 COOKED-FRESH-BAKED		P 0.000000	0.100000		10.00	0.010000
53001FA	BEEF-FAT	23 COOKED-FRESH-BOILED		P 0.000000	0.100000		10.00	0.010000
53001FA	BEEF-FAT	24 COOKED-FRESH-BROILED		P 0.000000	0.100000		10.00	0.010000
53001FA	BEEF-FAT	25 COOKED-FRESH-FRIED		P 0.000000	0.100000		10.00	0.010000
53001KA	BEEF-KIDNEY	21 COOKED-NFS		P 0.000000	0.110000		10.00	0.011000
53001LA	BEEF-LIVER	25 COOKED-FRESH-FRIED		P 0.000000	0.180000		10.00	0.018000
53001LA	BEEF-LIVER	31 COOKED-FRESH OR CANNED		P 0.000000	0.180000		10.00	0.018000
53001MA	BEEF-LEAN	10 RAW-FRESH OR NFS		P 0.000000	0.060000		10.00	0.006000
53001MA	BEEF-LEAN	21 COOKED-NFS		P 0.000000	0.060000		10.00	0.006000
53001MA	BEEF-LEAN	22 COOKED-FRESH-BAKED		P 0.000000	0.060000		10.00	0.006000
53001MA	BEEF-LEAN	23 COOKED-FRESH-BOILED		P 0.000000	0.060000		10.00	0.006000
53001MA	BEEF-LEAN	24 COOKED-FRESH-BROILED		P 0.000000	0.060000		10.00	0.006000
53001MA	BEEF-LEAN	00 NOT SPECIFIED (NO CONSUMPTION)		P 0.000000	0.180000		10.00	0.018000
53002BA	GOAT-MEAT BTP	00 NOT SPECIFIED (NO CONSUMPTION)		P 0.000000	0.180000		10.00	0.018000
53002BA	GOAT-OTH ORGAN	00 NOT SPECIFIED (NO CONSUMPTION)		P 0.000000	0.180000		10.00	0.018000
53002FA	GOAT-FAT	23 COOKED-FRESH-BOILED		P 0.000000	0.100000		10.00	0.010000

13

Table 1 (Con't)

CHEMICAL	STUDY TYPE		EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS	
	6mo feeding- monkey NOEL= 5.0000 mg/kg 100.00 ppm LEL= 15.0000 mg/kg 300.00 ppm ONCO: Undetermined.	inhibition of I-131 up- take at 3000 ppm. No adequate oncogenicity data available (see ETU).		PADI SF --> 1000 OPP RfD= 0.005000 EPA RfD= 0.005000	TOX complete 10/15/86. TOX reassess 9/28/87. EPA verified 10/14/87 WHO last reviewed 1980; see Mancozeb.			
FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TRS RUN (ppm)
53002FA	GOAT-FAT	25 COOKED-FRESH-FRIED	P	0.000000	0.100000		10.00	0.010000
53002KA	GOAT-KIDNEY	00 NOT SPECIFIED (NO CONSUMPTION)	P	0.000000	0.110000		10.00	0.011000
53002LA	GOAT-LIVER	00 NOT SPECIFIED (NO CONSUMPTION)	P	0.000000	0.180000		10.00	0.018000
53002MA	GOAT-LEAN	23 COOKED-FRESH-BOILED	P	0.000000	0.060000		10.00	0.006000
53002ZA	GOAT-LEAN	25 COOKED-FRESH-FRIED	P	0.000000	0.060000		10.00	0.006000
53003AA	HORSE	00 NOT SPECIFIED (NO CONSUMPTION)	P	0.000000	0.180000		10.00	0.018000
53005BA	SHEEP-MEAT BYP	21 COOKED-NFS	P	0.000000	0.180000		10.00	0.018000
53005BB	SHEEP-OTH ORGAN	21 COOKED-NFS	P	0.000000	0.180000		10.00	0.018000
53005FA	SHEEP-FAT	21 COOKED-NFS	P	0.000000	0.100000		10.00	0.010000
53005KA	SHEEP-KIDNEY	21 COOKED-NFS	P	0.000000	0.110000		10.00	0.011000
53005LA	SHEEP-LIVER	00 NOT SPECIFIED (NO CONSUMPTION)	P	0.000000	0.180000		10.00	0.018000
53005MA	SHEEP-LEAN	21 COOKED-NFS	P	0.000000	0.060000		10.00	0.006000
53005BA	SHEEP-MEAT BYP	31 COOKED-FRESH OR CANNED	P	0.000000	0.060000		10.00	0.006000
53006BA	PORK-MEAT BYP	21 COOKED-NFS	P	0.000000	0.180000		10.00	0.018000
53006BB	PORK-OTH ORGAN	21 COOKED-NFS	P	0.000000	0.180000		10.00	0.018000
53006BB	PORK-OTH ORGAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	P	0.000000	0.180000		10.00	0.018000
53006FA	PORK-FAT	10 RAW-FRESH OR NFS	P	0.000000	0.100000		10.00	0.010000
53006FA	PORK-FAT	21 COOKED-NFS	P	0.000000	0.100000		10.00	0.010000
53006FA	PORK-FAT	23 COOKED-FRESH-BOILED	P	0.000000	0.100000		10.00	0.010000
53006FA	PORK-FAT	25 COOKED-FRESH-FRIED	P	0.000000	0.100000		10.00	0.010000
53006FA	PORK-FAT	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	P	0.000000	0.100000		10.00	0.010000
53006KA	PORK-KIDNEY	21 COOKED-NFS	P	0.000000	0.110000		10.00	0.011000
53006LA	PORK-LIVER	21 COOKED-NFS	P	0.000000	0.180000		10.00	0.018000
53006LA	PORK-LIVER	25 COOKED-FRESH-FRIED	P	0.000000	0.180000		10.00	0.018000
53006MA	PORK-LEAN	21 COOKED-NFS	P	0.000000	0.060000		10.00	0.006000
53006MA	PORK-LEAN	25 COOKED-FRESH-FRIED	P	0.000000	0.060000		10.00	0.006000
53006MA	PORK-LEAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	P	0.000000	0.060000		10.00	0.006000
55008BA	TURKEY-BYP	21 COOKED-NFS	P	0.000000	0.020000		100.00	0.020000
55008BA	TURKEY-BYP	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	P	0.000000	0.020000		100.00	0.020000
55008LA	TURKEY ORGAN	21 COOKED-NFS	P	0.000000	0.020000		100.00	0.020000
55008LA	TURKEY ORGAN	25 COOKED-FRESH-FRIED	P	0.000000	0.020000		100.00	0.020000
55008MA	TURKEY W/O SKIN	21 COOKED-NFS	P	0.000000	0.012000		100.00	0.012000
55008MA	TURKEY W/O SKIN	31 COOKED-FRESH OR CANNED	P	0.000000	0.012000		100.00	0.012000
55008MA	TURKEY W/O SKIN	62 COOKED-FRESH OR FROZEN-BAKED	P	0.000000	0.012000		100.00	0.012000
55008MA	TURKEY+SKIN	21 COOKED-NFS	P	0.000000	0.012000		100.00	0.012000
55008MA	TURKEY+SKIN	25 COOKED-FRESH-FRIED	P	0.000000	0.012000		100.00	0.012000
55008MC	TURKEY-UNSPEC	21 COOKED-NFS	P	0.000000	0.020000		100.00	0.020000
55013BA	POULTRY, OTH-BYP	00 NOT SPECIFIED (NO CONSUMPTION)	P	0.000000	0.020000		100.00	0.020000
55013LA	POULTRY, ORGAN	25 COOKED-FRESH-FRIED	P	0.000000	0.020000		100.00	0.020000
55013MA	POULTRY, OTHER	21 COOKED-NFS	P	0.000000	0.020000		100.00	0.020000

Table 1 (Cont.)

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 539 DATE: 06/28/88 PAGE: 8

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS	
			PADI SF -->	1000			
Maneb	6mo feeding- monkey	Increased thyroid weight,	OPP Rfd= 0.005000	Chronic feeding- dog	TOX complete 10/15/86.		
Caswell #539	NOEL= 5.0000 mg/kg	inhibition of I-131 up-	EPA Rfd= 0.005000	Chronic feeding- rat	TOX reassess 9/28/87.		
CAS No. 12427-38-2	100.00 ppm	take at 3000 ppm.		Reproduction	EPA verified 10/14/87		
A.I. CODE: 014505	LEL= 15.0000 mg/kg	No adequate oncogenicity		Teratology- 2 species			
CFR No. 180.110	300.00 ppm	data available (see ETU).			MHO last reviewed 1980;		
	ONCO: Undetermined.				see Mancozeb.		
FOOD CODE	FOOD	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
55014AA	EGGS-WHOLE		P 0.000000	0.007000		100.00	0.007000
55014AA	EGGS-WHOLE	10 RAW-FRESH OR NFS	P 0.000000	0.007000		100.00	0.007000
55014AA	EGGS-WHOLE	21 COOKED-NFS	P 0.000000	0.007000		100.00	0.007000
55014AA	EGGS-WHOLE	22 COOKED-FRESH-BAKED	P 0.000000	0.007000		100.00	0.007000
55014AA	EGGS-WHOLE	23 COOKED-FRESH-BOILED	P 0.000000	0.007000		100.00	0.007000
55014AA	EGGS-WHOLE	25 COOKED-FRESH-FRIED	P 0.000000	0.007000		100.00	0.007000
55014AB	EGGS-WHITE ONLY	10 RAW-FRESH OR NFS	P 0.000000	0.007000		100.00	0.007000
55014AB	EGGS-WHITE ONLY	21 COOKED-NFS	P 0.000000	0.007000		100.00	0.007000
55014AB	EGGS-WHITE ONLY	22 COOKED-FRESH-BAKED	P 0.000000	0.007000		100.00	0.007000
55014AB	EGGS-WHITE ONLY	62 COOKED-FRESH OR FROZEN-BAKED	P 0.000000	0.007000		100.00	0.007000
55014AC	EGGS-WHITE ONLY	81 COOKED-FROZEN	P 0.000000	0.007000		100.00	0.007000
55014AC	EGGS-YOLK ONLY	10 RAW-FRESH OR NFS	P 0.000000	0.007000		100.00	0.007000
55014AC	EGGS-YOLK ONLY	21 COOKED-NFS	P 0.000000	0.007000		100.00	0.007000
55014AC	EGGS-YOLK ONLY	25 COOKED-FRESH-FRIED	P 0.000000	0.007000		100.00	0.007000
55014AC	EGGS-YOLK ONLY	31 COOKED-FRESH OR CANNED	P 0.000000	0.007000		100.00	0.007000
55015BA	CHICKEN-BYP	00 NOT SPECIFIED (NO CONSUMPTION)	P 0.000000	0.020000		100.00	0.020000
55015LA	CHICKEN-ORGAN	21 COOKED-NFS	P 0.000000	0.020000		100.00	0.020000
55015LA	CHICKEN-ORGAN	25 COOKED-FRESH-FRIED	P 0.000000	0.020000		100.00	0.020000
55015LA	CHICKEN-ORGAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED	P 0.000000	0.020000		100.00	0.020000
55015MA	CHICKEN-W/O SKIN	21 COOKED-NFS	P 0.000000	0.012000		100.00	0.012000
55015MA	CHICKEN-W/O SKIN	22 COOKED-FRESH-BAKED	P 0.000000	0.012000		100.00	0.012000
55015MA	CHICKEN-W/O SKIN	25 COOKED-FRESH-FRIED	P 0.000000	0.012000		100.00	0.012000
55015MA	CHICKEN-W/O SKIN	31 COOKED-FRESH OR CANNED	P 0.000000	0.012000		100.00	0.012000
55015MA	CHICKEN-W/O SKIN	53 COOKED-CANNED-BOILED	P 0.000000	0.012000		100.00	0.012000
55015MB	CHICKEN+SKIN	21 COOKED-NFS	P 0.000000	0.012000		100.00	0.012000
55015MB	CHICKEN+SKIN	25 COOKED-FRESH-FRIED	P 0.000000	0.012000		100.00	0.012000

Table 1a

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 443AA DATE: 06/29/88 PAGE: 1

FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)	EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS
									STUDY TYPE	2yr feeding- rat	Increased incidence of thyroid hyperplasia. Evidence of oncogenicity in rats (thyroid) and mice (liver).	ONCO: Class B2 (CAG/TOX)	LEL=	NOEL=	
01010AA	CRANBERRIES	10 RAW-FRESH OR NFS	21	P 7.000000	0.012000		10.00	0.001200							TOX complete 9/26/86.
01010AA	CRANBERRIES	21 COOKED-NFS	21	P 7.000000	0.012000		10.00	0.001200							EPA verified 12/09/86.
01010AA	CRANBERRIES	31 COOKED-FRESH OR CANNED	21	P 7.000000	0.012000		10.00	0.001200							TOX reasses 10/30/87.
01010JA	CRANBERRY-JUICE	15 RAW-FRESH OR CANNED	21	P 7.000000	0.012000		10.00	0.001200							EPA deferred 2/25/88. New monkey study submitted.
01010JA	CRANBERRY-JUICE	31 COOKED-FRESH OR CANNED	21	P 7.000000	0.012000		10.00	0.001200							WHO last reviewed 1986.
01014AA	GRAPES-FRESH	10 RAW-FRESH OR NFS	21	P 7.000000	0.260000		10.00	0.026000							
01014AA	GRAPES-FRESH	21 COOKED-NFS	21	P 7.000000	0.320000		10.00	0.032000							
01014AA	GRAPES-FRESH	31 COOKED-FRESH OR CANNED	21	P 7.000000	0.320000		10.00	0.032000							
01014DA	GRAPES-RAISINS	10 RAW-FRESH OR NFS	21	P 7.000000	0.860000C		10.00	0.086000							
01014DA	GRAPES-RAISINS	21 COOKED-NFS	21	P 7.000000	0.860000C		10.00	0.086000							
01014DA	GRAPES-RAISINS	22 COOKED-FRESH-BAKED	21	P 7.000000	0.860000C		10.00	0.086000							
01014JA	GRAPES-JUICE	10 RAW-FRESH OR NFS	21	P 7.000000	5.200000C		10.00	0.520000							
01014JA	GRAPES-JUICE	15 RAW-FRESH OR CANNED	21	P 7.000000	5.200000C		10.00	0.520000							
01014JA	GRAPES-JUICE	21 COOKED-NFS	21	P 7.000000	5.200000C		10.00	0.520000							
03001AA	ALMONDS	10 RAW-FRESH OR NFS	21	P 0.100000	0.010000		10.00	0.001000							
03001AA	ALMONDS	21 COOKED-NFS	21	P 0.100000	0.010000		10.00	0.001000							
03001AA	ALMONDS	22 COOKED-FRESH-BAKED	21	P 0.100000	0.010000		10.00	0.001000							
04001AA	APPLES-FRESH	10 RAW-FRESH OR NFS	2E1266	P 7.000000	0.210000		10.00	0.021000							
04001AA	APPLES-FRESH	21 COOKED-NFS	2E1266	P 7.000000	0.270000		10.00	0.027000							
04001AA	APPLES-FRESH	31 COOKED-FRESH OR CANNED	2E1266	P 7.000000	0.270000		10.00	0.027000							
04001AA	APPLES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	2E1266	P 7.000000	0.270000		10.00	0.027000							
04001DA	APPLES-DRIED	10 RAW-FRESH OR NFS	2E1266	P 7.000000	0.210000		10.00	0.021000							
04001DA	APPLES-DRIED	22 COOKED-FRESH-BAKED	2E1266	P 7.000000	0.270000		10.00	0.027000							
04001DA	APPLES-DRIED	62 COOKED-FRESH OR FROZEN-BAKED	2E1266	P 7.000000	0.270000		10.00	0.027000							
04001JA	APPLES-JUICE	15 RAW-FRESH OR CANNED	2E1266	P 7.000000	0.330000C		10.00	0.033000							
04001JA	APPLES-JUICE	31 COOKED-FRESH OR CANNED	2E1266	P 7.000000	0.270000C		10.00	0.027000							
05001AA	APRICOTS-FRESH	10 RAW-FRESH OR NFS	156	P 10.00000	2.500000		10.00	0.250000							
05001AA	APRICOTS-FRESH	21 COOKED-NFS	156	P 10.00000	2.600000		10.00	0.260000							
05001AA	APRICOTS-FRESH	31 COOKED-FRESH OR CANNED	156	P 10.00000	2.600000		10.00	0.260000							
05001DA	APRICOTS-DRIED	22 COOKED-FRESH-BAKED	156	P 10.00000	2.500000		10.00	0.250000							
05003AA	NECTARINES	10 RAW-FRESH OR NFS	156	P 10.00000	0.410000		10.00	0.041000							
05004AA	PEACHES-FRESH	21 COOKED-NFS	156	P 10.00000	1.400000		10.00	0.140000							
05004AA	PEACHES-FRESH	31 COOKED-FRESH OR CANNED	156	P 10.00000	1.700000		10.00	0.170000							
05004AA	PEACHES-FRESH	51 COOKED-CANNED	156	P 10.00000	1.700000		10.00	0.170000							
05004DA	PEACHES-DRIED	10 RAW-FRESH OR NFS	156	P 10.00000	1.400000		10.00	0.140000							
05004DA	PEACHES-DRIED	21 COOKED-NFS	156	P 10.00000	1.700000		10.00	0.170000							
06002AA	BANANAS-UNSPEC	22 COOKED-FRESH-BAKED	2F1257	P 0.500000	0.018000		10.00	0.001800							
06002AB	BANANAS-FRESH	10 RAW-FRESH OR NFS	2F1257	P 0.500000	0.018000		10.00	0.001800							

Table 1a (Con't)

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 443AA

DATE: 06/29/88

PAGE: 2

ETU from Maneb	CASwell #443AA	CAS No. 96-45-7	A.I. CODE:	CFR No. 180.	CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
								PADI	SF -->3000		
						2yr feeding- rat	Increased incidence of thyroid hyperplasia.			Reproduction	TOX complete 9/26/86.
						NOEL= 0.0000 mg/kg	Evidence of oncogenicity in rats (thyroid) and mice (liver).			Chronic feeding- dog	EPA verified 12/09/86.
						LEL= 0.2500 mg/kg				UF 3000 for data gaps, lack of NOEL.	TOX reasses 10/30/87.
						ONCO: Class B2 (CAG/TOX)				Q* calculated.	EPA deferred 2/25/88. New monkey study submitted.
										EBDC plant metabolite.	WHO last reviewed 1986.
FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)			
06002AB	BANANAS-FRESH	21 COOKED-NFS	2F1257	P 0.500000	0.018000		10.00	0.001800			
06002AB	BANANAS-FRESH	31 COOKED-FRESH OR CANNED	2F1257	P 0.500000	0.018000		10.00	0.001800			
06002DA	BANANAS-DRIED	10 RAW-FRESH OR NFS	2F1257	P 0.500000	0.018000		10.00	0.001800			
06002DA	BANANAS-DRIED	21 COOKED-NFS	2F1257	P 0.500000	0.018000		10.00	0.001800			
06005AA	FIGS	10 RAW-FRESH OR NFS	21	P 7.000000	0.015000		10.00	0.001500			
06005AA	FIGS	21 COOKED-NFS	21	P 7.000000	0.015000		10.00	0.001500			
06005AA	FIGS	22 COOKED-FRESH-BAKED	21	P 7.000000	0.015000		10.00	0.001500			
06010AA	PAPAYAS-UNSPEC	00 NOT SPECIFIED (NO CONSUMPTION)	6F0485	P 10.000000	0.002000		10.00	0.000200			
06010AB	PAPAYAS-PULP	10 RAW-FRESH OR NFS	6F0485	P 10.000000	0.002000		10.00	0.000200			
06010AB	PAPAYAS-PULP	51 COOKED-CANNED	6F0485	P 10.000000	0.002000		10.00	0.000200			
06010DA	PAPAYAS-DRIED	10 RAW-FRESH OR NFS	6F0485	P 10.000000	0.002000		10.00	0.000200			
06010TA	PAPAYAS-JUICE	10 RAW-FRESH OR NFS	6F0485	P 10.000000	0.002000		10.00	0.000200			
06016AA	PLANTAINS	21 COOKED-NFS	2F1257	P 0.500000	0.018000		10.00	0.001800			
06016AA	PLANTAINS	23 COOKED-FRESH-BOILED	2F1257	P 0.500000	0.018000		10.00	0.001800			
06016AA	PLANTAINS	25 COOKED-FRESH-FRIED	2F1257	P 0.500000	0.018000		10.00	0.001800			
08048DA	PAPRIKA	00 NOT SPECIFIED (NO CONSUMPTION)	21	P 7.000000	0.080000		10.00	0.008000			
10002AA	CANTALOUPE-UNSF	00 NOT SPECIFIED (NO CONSUMPTION)	2F1256	P 4.000000	0.015000		10.00	0.001500			
10002AB	CANTALOUPE-PULP	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.015000		10.00	0.001500			
10002AB	CANTALOUPE-PULP	21 COOKED-NFS	2F1256	P 4.000000	0.089000		10.00	0.008900			
10003AA	CASABAS	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.015000		10.00	0.001500			
10004AA	CRENSHAW	00 NOT SPECIFIED (NO CONSUMPTION)	2F1256	P 4.000000	0.015000		10.00	0.001500			
10005AA	HONEYDEW MELONS	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.015000		10.00	0.001500			
10007AA	PERSION MELONS	00 NOT SPECIFIED (NO CONSUMPTION)	2F1256	P 4.000000	0.015000		10.00	0.001500			
10008AA	WATERMELON	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.015000		10.00	0.001500			
10008AA	WATERMELON	21 COOKED-NFS	2F1256	P 4.000000	0.089000		10.00	0.008900			
10010AA	CUCUMBERS	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.060000		10.00	0.006000			
10010AA	CUCUMBERS	11 RAW-FRESH-PICKLED, CORNED, OR CURED	2F1256	P 4.000000	0.060000		10.00	0.006000			
10010AA	CUCUMBERS	21 COOKED-NFS	2F1256	P 4.000000	0.094000		10.00	0.009400			
10011AA	PUMPKIN	21 COOKED-NFS	329	P 7.000000	0.089000		10.00	0.008900			
10011AA	PUMPKIN	22 COOKED-FRESH-BAKED	329	P 7.000000	0.089000		10.00	0.008900			
10011AA	PUMPKIN	62 COOKED-FRESH OR FROZEN-BAKED	329	P 7.000000	0.089000		10.00	0.008900			
10013AA	SQUASH-SUMMER	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.002000		10.00	0.000200			
10013AA	SQUASH-SUMMER	21 COOKED-NFS	2F1256	P 4.000000	0.044000		10.00	0.004400			
10014AA	SQUASH-WINTER	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.002000		10.00	0.000200			
10014AA	SQUASH-WINTER	21 COOKED-NFS	2F1256	P 4.000000	0.044000		10.00	0.004400			
10014AA	SQUASH-WINTER	31 COOKED-FRESH OR CANNED	2F1256	P 4.000000	0.044000		10.00	0.004400			
10017AA	BITTER MELON	21 COOKED-NFS	2F1256	P 4.000000	0.044000		10.00	0.004400			
10020AA	TOMELGOURD	00 NOT SPECIFIED (NO CONSUMPTION)	2F1256	P 4.000000	0.044000		10.00	0.004400			
11001AA	EGGPLANT	10 RAW-FRESH OR NFS	21	P 7.000000	0.002000		10.00	0.000200			
11001AA	EGGPLANT	21 COOKED-NFS	21	P 7.000000	0.025000		10.00	0.002500			

Table 1a (Con't)

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 443AA DATE: 06/29/88 PAGE: 3

FOOD CODE	FOOD	FOOD FORM	P.T.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)	CHEMICAL		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS			
									ETU from Maneb	Caswell #443AA	2yr feeding- rat	Increased incidence of	PADI	SF -->3000	Reproduction	TOX complete 9/26/86.						
11001AA	EGGPLANT	25 COOKED-FRESH-FRIED	21	P 7.000000	0.025000		10.00	0.002500														
11003AA	PEPPERS, SWEET	10 RAW-FRESH OR NFS	21	P 7.000000	0.080000		10.00	0.008000														
11003AA	PEPPERS, SWEET	21 COOKED-NFS	21	P 7.000000	0.410000		10.00	0.041000														
11003AB	CHILI PEPPERS	00 NOT SPECIFIED (NO CONSUMPTION)	21	P 7.000000	0.080000		10.00	0.008000														
11003AD	PEPPERS-OTHER	10 RAW-FRESH OR NFS	21	P 7.000000	0.080000		10.00	0.008000														
11003AD	PEPPERS-OTHER	21 COOKED-NFS	21	P 7.000000	0.410000		10.00	0.041000														
11003AD	PEPPERS-OTHER	51 COOKED-CANNED	21	P 7.000000	0.410000		10.00	0.041000														
11004AA	PIMIENTOS	10 RAW-FRESH OR NFS	21	P 7.000000	0.080000		10.00	0.008000														
11004AA	PIMIENTOS	21 COOKED-NFS	21	P 7.000000	0.410000		10.00	0.041000														
11004AA	PIMIENTOS	31 COOKED-FRESH OR CANNED	21	P 7.000000	0.410000		10.00	0.041000														
11005AA	TOMATOES-WHOLE	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.003000		20.00	0.000600														
11005AA	TOMATOES-WHOLE	21 COOKED-NFS	2F1256	P 4.000000	0.025000		20.00	0.005000														
11005AA	TOMATOES-WHOLE	31 COOKED-FRESH OR CANNED	2F1256	P 4.000000	0.025000		20.00	0.005000														
11005JA	TOMATOES-JUICE	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.075000C		20.00	0.015000														
11005JA	TOMATOES-JUICE	21 COOKED-NFS	2F1256	P 4.000000	0.075000C		20.00	0.015000														
11005RA	TOMATOES-PUREE	10 RAW-FRESH OR NFS	2F1256	P 4.000000	0.003000		20.00	0.000600														
11005RA	TOMATOES-PUREE	31 COOKED-FRESH OR CANNED	2F1256	P 4.000000	0.025000C		20.00	0.005000														
11005RA	TOMATOES-PUREE	32 COOKED-FRESH OR CANNED-BAKED	2F1256	P 4.000000	0.025000C		20.00	0.005000														
11005RA	TOMATOES-PUREE	51 COOKED-CANNED	2F1256	P 4.000000	0.025000C		20.00	0.005000														
11005TA	TOMATOES-PASTE	21 COOKED-NFS	2F1256	P 4.000000	0.075000C		20.00	0.015000														
11005TA	TOMATOES-PASTE	22 COOKED-FRESH-BAKED	2F1256	P 4.000000	0.075000C		20.00	0.015000														
11005TA	TOMATOES-PASTE	31 COOKED-FRESH OR CANNED	2F1256	P 4.000000	0.075000C		20.00	0.015000														
11005UA	TOMATOES-CATSUP	21 COOKED-NFS	2F1256	P 4.000000	0.075000C		20.00	0.015000														
13002AA	CELERY	10 RAW-FRESH OR NFS	2F1256	P 5.000000	0.350000		10.00	0.035000														
13002AA	CELERY	21 COOKED-NFS	2F1256	P 5.000000	8.100000		10.00	0.810000														
13005AA	BROCCOLI	21 COOKED-NFS	183	P 10.000000	2.500000		25.00	0.250000														
13005AA	BROCCOLI	31 COOKED-FRESH OR CANNED	183	P 10.000000	2.500000		25.00	0.250000														
13005AA	BROCCOLI	63 COOKED-FRESH OR FROZEN-BOILED	183	P 10.000000	2.500000		25.00	0.250000														
13006AA	BRUSSEL SPROUTS	21 COOKED-NFS	183	P 10.000000	2.500000		25.00	0.250000														
13006AA	BRUSSEL SPROUTS	23 COOKED-FRESH-BOILED	183	P 10.000000	2.500000		25.00	0.250000														
13007AA	CABBAGE	10 RAW-FRESH OR NFS	156	P 10.000000	0.003000		25.00	0.000750														
13007AA	CABBAGE	11 RAW-FRESH-PICKLED, CORNED, OR CURED	156	P 10.000000	0.003000		25.00	0.000750														
13007AA	CABBAGE	21 COOKED-NFS	156	P 10.000000	0.100000		25.00	0.025000														
13008AA	CAULIFLOWER	10 RAW-FRESH OR NFS	183	P 10.000000	0.003000		25.00	0.000750														
13008AA	CAULIFLOWER	21 COOKED-NFS	183	P 10.000000	0.100000		25.00	0.025000														
13009AA	COLLARDS	51 COOKED-CANNED	156	P 10.000000	5.400000		10.00	0.540000														
13009AA	COLLARDS	63 COOKED-FRESH OR FROZEN-BOILED	156	P 10.000000	5.400000		10.00	0.540000														
13010AA	CABBAGE-CHINESE	10 RAW-FRESH OR NFS	156	P 10.000000	0.003000		25.00	0.000750														
13010AA	CABBAGE-CHINESE	21 COOKED-NFS	156	P 10.000000	0.100000		25.00	0.025000														

Table 1a (Con't.)

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 443AA DATE: 06/29/88 PAGE: 4

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)	EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS		
									STUDY TYPE	2yr feeding- rat	Increased incidence of	Incidence of	PADI	SF -->3000		Reproduction	TOX complete
13011AA	KALE	63 COOKED-FRESH OR FROZEN-BOILED	56	P 10.00000	2.800000		10.00	0.280000									
13012AA	KOHLRABI	21 COOKED-NFS	183	P 10.00000	2.500000		10.00	0.250000									
13013AA	LETTUCE-LEAFY	10 RAW-FRESH OR NFS	156	P 10.00000	0.620000		32.00	0.198400									
13015AA	ENDIVE	10 RAW-FRESH OR NFS	156	P 10.00000	0.620000		10.00	0.062000									
13015AA	ENDIVE	21 COOKED-NFS	156	P 10.00000	0.620000		10.00	0.062000									
13016AA	FENNEL	00 NOT SPECIFIED (NO CONSUMPTION)	2F1256	P 5.000000	8.100000		10.00	0.810000									
13020AA	LETTUCE-UNSPEC	10 RAW-FRESH OR NFS	156	P 10.00000	0.620000		32.00	0.198400									
13021AA	MUSTARD GREENS	21 COOKED-NFS	156	P 10.00000	6.200000		10.00	0.620000									
13021AA	MUSTARD GREENS	63 COOKED-FRESH OR FROZEN-BOILED	156	P 10.00000	6.200000		10.00	0.620000									
13023AA	RHUBARB	10 RAW-FRESH OR NFS	225	P 10.00000	0.350000		10.00	0.350000									
13023AA	RHUBARB	21 COOKED-NFS	225	P 10.00000	8.100000		10.00	0.810000									
13023AA	RHUBARB	31 COOKED-FRESH OR CANNED	225	P 10.00000	8.100000		10.00	0.810000									
13023AA	RHUBARB	62 COOKED-FRESH OR FROZEN-BAKED	225	P 10.00000	8.100000		10.00	0.810000									
13024AA	SPINACH	10 RAW-FRESH OR NFS	156	P 10.00000	0.092000		48.00	0.044160									
13024AA	SPINACH	21 COOKED-NFS	156	P 10.00000	5.400000		48.00	2.592000									
13024AA	SPINACH	31 COOKED-FRESH OR CANNED	156	P 10.00000	5.400000		48.00	2.592000									
13026AA	TURNIPS-TOPS	10 RAW-FRESH OR NFS	156	P 10.00000	0.290000		10.00	0.029000									
13026AA	TURNIPS-TOPS	21 COOKED-NFS	156	P 10.00000	6.000000		10.00	0.600000									
13026AA	TURNIPS-TOPS	31 COOKED-FRESH OR CANNED	156	P 10.00000	6.000000		10.00	0.600000									
13045AA	LETTUCE-HEAD	10 RAW-FRESH OR NFS	156	P 10.00000	0.052000		32.00	0.016640									
13045AA	LETTUCE-HEAD	21 COOKED-NFS	156	P 10.00000	0.860000		32.00	0.275200									
14003AA	CARROTS	10 RAW-FRESH OR NFS	21	P 7.000000	0.023000		10.00	0.002300									
14003AA	CARROTS	21 COOKED-NFS	21	P 7.000000	1.300000		10.00	0.130000									
14003AA	CARROTS	23 COOKED-FRESH-BOILED	21	P 7.000000	1.300000		10.00	0.130000									
14003AA	CARROTS	31 COOKED-FRESH OR CANNED	21	P 7.000000	1.300000		10.00	0.130000									
14003AA	CARROTS	51 COOKED-CANNED	21	P 7.000000	1.300000		10.00	0.130000									
14007AA	GARLIC	10 RAW-FRESH OR NFS	21	P 7.000000	0.160000		10.00	0.016000									
14007AA	GARLIC	21 COOKED-NFS	21	P 7.000000	0.930000		10.00	0.093000									
14007AA	GARLIC	32 COOKED-FRESH OR CANNED-BAKED	21	P 7.000000	0.930000		10.00	0.093000									
14010AA	LEEK	31 COOKED-FRESH OR CANNED	21	P 7.000000	2.500000		10.00	0.250000									
14011AA	ONIONS-DRY-BULB	10 RAW-FRESH OR NFS	21	P 7.000000	0.160000		10.00	0.016000									
14011AA	ONIONS-DRY-BULB	21 COOKED-NFS	21	P 7.000000	0.930000		10.00	0.093000									
14011AA	ONIONS-DRY-BULB	22 COOKED-FRESH-BAKED	21	P 7.000000	0.930000		10.00	0.093000									
14011AA	ONIONS-DRY-BULB	31 COOKED-FRESH OR CANNED	21	P 7.000000	0.930000		10.00	0.093000									
14011DA	ONIONS-DRIED	12 RAW-FRESH-BAKED	21	P 7.000000	0.160000		10.00	0.016000									
14013AA	POTATO(WH)-WHOLE	10 RAW-FRESH OR NFS	21	P 0.100000	0.003000		10.00	0.000300									
14013AA	POTATO(WH)-WHOLE	21 COOKED-NFS	21	P 0.100000	0.170000		10.00	0.017000									
14013AA	POTATO(WH)-WHOLE	22 COOKED-FRESH-BAKED	21	P 0.100000	0.170000		10.00	0.017000									
14013AB	POTATO(WH)-UNSPEC	22 COOKED-FRESH-BAKED	21	P 0.100000	0.170000		10.00	0.017000									
14013AC	POTATO(WH)-PULP	21 COOKED-NFS	21	P 0.100000	0.130000		10.00	0.013000									

Table 1a (Con't)

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 443AA DATE: 06/29/88 PAGE: 5

ETU from Maneb Caswell #443AA CAS No. 96-45-7 A.I. CODE: CFR No. 180.	STUDY TYPE		EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
	2yr feeding- rat NOEL= 0.0000 mg/kg 0.00 ppm	LEL= 0.2500 mg/kg 5.00 ppm		PADI SF -->3000 OPP Rfd= 0.000080 EPA Rfd= 0.000030	Reproduction Chronic feeding- dog UF 3000 for data gaps, lack of NOEL. Q* calculated.		
	ONCO: Class B2 (CAG/TOX)		Increased incidence of thyroid hyperplasia. Evidence of oncogenicity in rats (thyroid) and mice (liver).	Q*= 0.140000	EBDC plant metabolite.		

FOOD CODE	FOOD	FOOD FORM	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
14013AC	POTATO(WH)-PULP	22 COOKED-FRESH-BAKED	21	P 0.100000	0.130000		10.00	0.013000
14013AC	POTATO(WH)-PULP	23 COOKED-FRESH-BOILED	21	P 0.100000	0.130000		10.00	0.013000
14013AC	POTATO(WH)-PULP	25 COOKED-FRESH-FRIED	21	P 0.100000	0.003000		10.00	0.000300
14013DA	POTATO(WH)-DRY	10 RAW-FRESH OR NFS	21	P 0.100000	0.0030000C		10.00	0.000300
14013DA	POTATO(WH)-DRY	31 COOKED-FRESH OR CANNED	21	P 0.100000	0.0030000C		10.00	0.000300
14013HA	POTATO(WH)-PEEL	22 COOKED-FRESH-BAKED	21	P 0.100000	0.530000		10.00	0.053000
14017AA	SHALLOTS	00 NOT SPECIFIED (NO CONSUMPTION)	21	P 7.000000	2.500000		10.00	0.250000
14019AA	TURNIPS-ROOTS	10 RAW-FRESH OR NFS	156	P 7.000000	0.290000		10.00	0.029000
14019AA	TURNIPS-ROOTS	21 COOKED-NFS	156	P 7.000000	2.100000		10.00	0.210000
15001AA	BEANS-DRY-GRT NO 00	NOT SPECIFIED (NO CONSUMPTION)	156	P 7.000000	0.240000		10.00	0.024000
15001AB	BEANS-DRY-KIDNEY 21	COOKED-NFS	156	P 7.000000	0.240000		10.00	0.024000
15001AB	BEANS-DRY-KIDNEY 31	COOKED-FRESH OR CANNED	156	P 7.000000	0.240000		10.00	0.024000
15001AC	BEANS-DRY-LIMA	21 COOKED-NFS	156	P 7.000000	0.240000		60.00	0.144000
15001AD	BEANS-DRY-NAVY 21	COOKED-NFS	156	P 7.000000	0.240000		10.00	0.024000
15001AD	BEANS-DRY-NAVY 31	COOKED-FRESH OR CANNED	156	P 7.000000	0.240000		10.00	0.024000
15001AE	BEANS-DRY-OTHER 21	COOKED-NFS	156	P 7.000000	0.240000		10.00	0.024000
15001AE	BEANS-DRY-OTHER 25	COOKED-FRESH-FRIED	156	P 7.000000	0.240000		10.00	0.024000
15001AE	BEANS-DRY-OTHER 31	COOKED-FRESH OR CANNED	156	P 7.000000	0.240000		10.00	0.024000
15001AF	BEANS-DRY-PINTO 21	COOKED-NFS	156	P 7.000000	0.240000		10.00	0.024000
15002AA	BEANS-SUCC-LIMA 10	RAW-FRESH OR NFS	156	P 10.000000	0.075000		60.00	0.045000
15002AA	BEANS-SUCC-LIMA 21	COOKED-NFS	156	P 10.000000	0.310000		60.00	0.186000
15003AA	BEANS-SUCC-GREEN 21	COOKED-NFS	156	P 10.000000	0.310000		10.00	0.031000
15003AB	BEANS-SUCC-OTH 10	RAW-FRESH OR NFS	156	P 10.000000	0.075000		10.00	0.007500
15003AB	BEANS-SUCC-OTH 21	COOKED-NFS	156	P 10.000000	0.310000		10.00	0.031000
15003AC	BEANS-SUCC-WAX 21	COOKED-NFS	156	P 10.000000	0.004000		12.00	0.000480
15005AA	CORN, SWEET	21 COOKED-NFS	2F1266	P 5.000000	0.021000		12.00	0.002520
15005AA	CORN, SWEET	31 COOKED-FRESH OR CANNED	2F1266	P 5.000000	0.021000		12.00	0.002520
15005AA	MUNG BEANS	10 RAW-FRESH OR NFS	156	P 7.000000	0.045000		10.00	0.004500
15013AA	MUNG BEANS	21 COOKED-NFS	156	P 7.000000	0.240000		10.00	0.024000
15013AA	MUNG BEANS	00 NOT SPECIFIED (NO CONSUMPTION)	156	P 7.000000	0.240000		10.00	0.024000
15022AB	BEANS-SUCC-BROAD 00	NOT SPECIFIED (NO CONSUMPTION)	156	P 10.000000	0.310000		10.00	0.031000
15023AA	BEANS-DRY-PIGEON 21	COOKED-NFS	156	P 7.000000	0.240000		10.00	0.024000
15027AA	BEANS-UNSPEC 21	COOKED-NFS	156	P 10.000000	0.240000		10.00	0.024000
15030AA	BEANS-DRY-HYAC 00	NOT SPECIFIED (NO CONSUMPTION)	156	P 7.000000	0.240000		10.00	0.024000
15030AB	BEANS-SUCC-HYAC 00	NOT SPECIFIED (NO CONSUMPTION)	156	P 10.000000	0.310000		10.00	0.031000
15031AA	BLKEYE PEAS-DRY 21	COOKED-NFS	156	P 7.000000	0.240000		10.00	0.024000
15032AA	BEANS-DRY 21	COOKED-NFS	156	P 7.000000	0.240000		10.00	0.024000
15032AA	BEANS-DRY 31	COOKED-FRESH OR CANNED	156	P 7.000000	0.240000		10.00	0.024000
16004AA	ONIONS-GREEN	10 RAW-FRESH OR NFS	21	P 7.000000	0.060000		10.00	0.006000

20

Table 1a (Cont.)

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	REFERENCE DOSES		EFFECTS	STUDY TYPE	CHEMICAL	STATUS
					PADI	SF -->3000				
DATA GAPS/COMMENTS										
REPRODUCTION										
CHRONIC FEEDING-DOG										
UF 3000 FOR DATA GAPS, LACK OF NOEL.										
Q* CALCULATED.										
EBDC PLANT METABOLITE.										
Q* = 0.140000										
MONKEY STUDY SUBMITTED.										
WHO LAST REVIEWED 1986.										
FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)		
16004AA	ONIONS-GREEN	21 COOKED-NFS	21	P 7.000000	2.500000		10.00	0.250000		
16004AA	ONIONS-GREEN	25 COOKED-FRESH-FRIED	21	P 7.000000	2.500000		10.00	0.250000		
25002SA	BEEF SUGAR	10 RAW-FRESH OR NFS		P 0.000000	0.004000		10.00	0.000400		
25002SA	BEEF SUGAR	21 COOKED-NFS		P 0.000000	0.004000		10.00	0.000400		
25002SA	BEEF SUGAR	22 COOKED-FRESH-BAKED		P 0.000000	0.004000		10.00	0.000400		
25002SA	BEEF SUGAR	31 COOKED-FRESH OR CANNED		P 0.000000	0.004000		10.00	0.000400		
26011AA	GUAR BEANS	00 NOT SPECIFIED (NO CONSUMPTION)	156	P 10.000000	0.240000		10.00	0.024000		
27001CA	CASTOR BEANS	00 NOT SPECIFIED (NO CONSUMPTION)	156	P 10.000000	0.240000		10.00	0.024000		
43058AA	WINE AND SHERRY	10 RAW-FRESH OR NFS	21	P 7.000000	5.200000		10.00	0.520000		
43058AA	WINE AND SHERRY	21 COOKED-NFS	21	P 7.000000	5.200000		10.00	0.520000		
50000DB	MILK-NON-FAT SOL	10 RAW-FRESH OR NFS		P 0.000000	0.050000		10.00	0.005000		
50000DB	MILK-NON-FAT SOL	21 COOKED-NFS		P 0.000000	0.050000		10.00	0.005000		
50000FA	MILK-FAT SOLIDS	10 RAW-FRESH OR NFS		P 0.000000	0.050000		10.00	0.005000		
50000FA	MILK-FAT SOLIDS	21 COOKED-NFS		P 0.000000	0.050000		10.00	0.005000		
50000FA	MILK-FAT SOLIDS	51 COOKED-CANNED		P 0.000000	0.050000		10.00	0.005000		
50000SA	MILK SUG (LACT)	21 COOKED-NFS		P 0.000000	0.050000		10.00	0.005000		
50000SA	MILK SUG (LACT)	51 COOKED-CANNED		P 0.000000	0.050000		10.00	0.005000		
53001BA	BEEF-MEAT BYP	21 COOKED-NFS		P 0.000000	0.054000		10.00	0.005400		
53001BA	BEEF-MEAT BYP	26 COOKED-FRESH-PICKLED, CORNED, OR CURED		P 0.000000	0.054000		10.00	0.005400		
53001BB	BEEF-OTH ORGAN	21 COOKED-NFS		P 0.000000	0.054000		10.00	0.005400		
53001BB	BEEF-OTH ORGAN	51 COOKED-CANNED		P 0.000000	0.054000		10.00	0.005400		
53001FA	BEEF-FAT	10 RAW-FRESH OR NFS		P 0.000000	0.002000		10.00	0.000200		
53001FA	BEEF-FAT	21 COOKED-NFS		P 0.000000	0.002000		10.00	0.000200		
53001FA	BEEF-FAT	22 COOKED-FRESH-BAKED		P 0.000000	0.002000		10.00	0.000200		
53001FA	BEEF-FAT	23 COOKED-FRESH-BOILED		P 0.000000	0.002000		10.00	0.000200		
53001FA	BEEF-FAT	24 COOKED-FRESH-BROILED		P 0.000000	0.002000		10.00	0.000200		
53001FA	BEEF-FAT	25 COOKED-FRESH-FRIED		P 0.000000	0.002000		10.00	0.000200		
53001KA	BEEF-KIDNEY	21 COOKED-NFS		P 0.000000	0.050000		10.00	0.005000		
53001LA	BEEF-LIVER	25 COOKED-FRESH-FRIED		P 0.000000	0.054000		10.00	0.005400		
53001LA	BEEF-LIVER	31 COOKED-FRESH OR CANNED		P 0.000000	0.054000		10.00	0.005400		
53001NA	BEEF-LEAN	10 RAW-FRESH OR NFS		P 0.000000	0.024000		10.00	0.002400		
53001NA	BEEF-LEAN	21 COOKED-NFS		P 0.000000	0.024000		10.00	0.002400		
53001NA	BEEF-LEAN	22 COOKED-FRESH-BAKED		P 0.000000	0.024000		10.00	0.002400		
53001NA	BEEF-LEAN	23 COOKED-FRESH-BOILED		P 0.000000	0.024000		10.00	0.002400		
53001NA	BEEF-LEAN	24 COOKED-FRESH-BROILED		P 0.000000	0.024000		10.00	0.002400		
53002BA	GOAT-MEAT BYP	00 NOT SPECIFIED (NO CONSUMPTION)		P 0.000000	0.054000		10.00	0.005400		
53002BB	GOAT-OTH ORGAN	00 NOT SPECIFIED (NO CONSUMPTION)		P 0.000000	0.054000		10.00	0.005400		
53002FA	GOAT-FAT	23 COOKED-FRESH-BOILED		P 0.000000	0.002000		10.00	0.000200		

21

Table 1a (Cont.)

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 443AA DATE: 06/29/88 PAGE: 7

FOOD CODE	FOOD	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GRPS/COMMENTS	STATUS
				PADI SF -->3000	OPP RfD= 0.000080		
CHEMICAL		EFFECTS		REFERENCE DOSES		DATA GRPS/COMMENTS	
ETU from Maneb	2yt feeding- rat	Increased incidence of thyroid hyperplasia.	Reproduction	TOX complete 9/26/86			
Caswell #443AA	NOEL= 0.0000 mg/kg	Evidence of oncogenicity in rats (thyroid) and mice (liver).	Chronic feeding- dog	EPA verified 12/09/86.			
CAS No. 96-45-7	0.00 ppm		UF 3000 for data gaps, lack of NOEL.	TOX reassess 10/30/87.			
A.I. CODE:	LEL= 0.2500 mg/kg		Q* calculated.	EPA deferred 2/25/88. New monkey study submitted.			
CFR No. 180.	5.00 ppm		EBDC plant metabolite.	WHO last reviewed 1986.			
ONCO: Class B2 (CAG/TOX)	Q*= 0.140000						
FOOD CODE	FOOD	PET. #	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
53002FA	GOAT-FAT	25	COOKED-FRESH-FRIED	P 0.000000	0.002000	10.00	0.000200
53002KA	GOAT-KIDNEY	00	NOT SPECIFIED (NO CONSUMPTION)	P 0.000000	0.050000	10.00	0.005000
53002LA	GOAT-LIVER	00	NOT SPECIFIED (NO CONSUMPTION)	P 0.000000	0.054000	10.00	0.005400
53002NA	GOAT-LEAN	23	COOKED-FRESH-BOILED	P 0.000000	0.024000	10.00	0.002400
53002MA	GOAT-LEAN	25	COOKED-FRESH-FRIED	P 0.000000	0.024000	10.00	0.002400
53003AA	HORSE	00	NOT SPECIFIED (NO CONSUMPTION)	P 0.000000	0.054000	10.00	0.005400
53005BA	SHEEP-MEAT BYP	21	COOKED-NFS	P 0.000000	0.054000	10.00	0.005400
53005BB	SHEEP-OTH ORGAN	21	COOKED-NFS	P 0.000000	0.054000	10.00	0.005400
53005FA	SHEEP-FAT	21	COOKED-NFS	P 0.000000	0.002000	10.00	0.000200
53005KA	SHEEP-KIDNEY	21	COOKED-NFS	P 0.000000	0.050000	10.00	0.005000
53005LA	SHEEP-LIVER	00	NOT SPECIFIED (NO CONSUMPTION)	P 0.000000	0.054000	10.00	0.005400
53005MA	SHEEP-LEAN	31	COOKED-FRESH OR CANNED	P 0.000000	0.024000	10.00	0.002400
53005BA	PORK-MEAT BYP	21	COOKED-NFS	P 0.000000	0.054000	10.00	0.005400
53006BB	PORK-OTH ORGAN	21	COOKED-NFS	P 0.000000	0.054000	10.00	0.005400
53006BB	PORK-OTH ORGAN	26	COOKED-FRESH-PICKLED, CORNED, OR CURED	P 0.000000	0.054000	10.00	0.005400
53006FA	PORK-FAT	10	RAW-FRESH OR NFS	P 0.000000	0.002000	10.00	0.000200
53006FA	PORK-FAT	21	COOKED-NFS	P 0.000000	0.002000	10.00	0.000200
53006FA	PORK-FAT	23	COOKED-FRESH-BOILED	P 0.000000	0.002000	10.00	0.000200
53006FA	PORK-FAT	25	COOKED-FRESH-FRIED	P 0.000000	0.002000	10.00	0.000200
53006FA	PORK-FAT	26	COOKED-FRESH-PICKLED, CORNED, OR CURED	P 0.000000	0.002000	10.00	0.000200
53006KA	PORK-KIDNEY	21	COOKED-NFS	P 0.000000	0.050000	10.00	0.005000
53006LA	PORK-LIVER	21	COOKED-NFS	P 0.000000	0.054000	10.00	0.005400
53006LA	PORK-LIVER	25	COOKED-FRESH-FRIED	P 0.000000	0.054000	10.00	0.005400
53006MA	PORK-LEAN	25	COOKED-NFS	P 0.000000	0.024000	10.00	0.002400
53006MA	PORK-LEAN	25	COOKED-FRESH-FRIED	P 0.000000	0.024000	10.00	0.002400
53006MA	PORK-LEAN	26	COOKED-FRESH-PICKLED, CORNED, OR CURED	P 0.000000	0.024000	10.00	0.002400
55008BA	TURKEY-BYP	21	COOKED-NFS	P 0.000000	0.008000	100.00	0.008000
55008BA	TURKEY-BYP	26	COOKED-FRESH-PICKLED, CORNED, OR CURED	P 0.000000	0.008000	100.00	0.008000
55008LA	TURKEY ORGAN	21	COOKED-NFS	P 0.000000	0.008000	100.00	0.008000
55008LA	TURKEY ORGAN	25	COOKED-FRESH-FRIED	P 0.000000	0.008000	100.00	0.008000
55008MA	TURKEY W/O SKIN	21	COOKED-NFS	P 0.000000	0.009000	100.00	0.009000
55008MA	TURKEY W/O SKIN	31	COOKED-FRESH OR CANNED	P 0.000000	0.009000	100.00	0.009000
55008MA	TURKEY W/O SKIN	62	COOKED-FRESH OR FROZEN-BAKED	P 0.000000	0.009000	100.00	0.009000
55008MB	TURKEY+SKIN	21	COOKED-NFS	P 0.000000	0.009000	100.00	0.009000
55008MB	TURKEY+SKIN	25	COOKED-FRESH-FRIED	P 0.000000	0.009000	100.00	0.009000
55008MC	TURKEY-UNSPEC	21	COOKED-NFS	P 0.000000	0.009000	100.00	0.009000
55013BA	POULTRY, OTH-BYP	00	NOT SPECIFIED (NO CONSUMPTION)	P 0.000000	0.008000	100.00	0.008000
55013LA	POULTRY, ORGAN	25	COOKED-FRESH-FRIED	P 0.000000	0.008000	100.00	0.008000
55013MA	POULTRY, OTHER	21	COOKED-NFS	P 0.000000	0.009000	100.00	0.009000

22

Table 1a (Con't)

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 443AA DATE: 06/29/88 PAGE: 8

CHEMICAL		STUDY TYPE		EFFECTS		REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS	
ETU from Maneb		2yr feeding- rat		Increased incidence of thyroid hyperplasia.		PADI SF -->3000		Reproduction		TOX complete 9/26/86.	
Caswell #443AA		NOEL= 0.0000 mg/kg		Evidence of oncogenicity in rats (thyroid) and mice (liver).		OPP RfD= 0.000080		Chronic feeding- dog		EPA verified 12/09/86.	
CAS No. 96-45-7		LEL= 0.2500 mg/kg				EPA RfD= 0.000030		UF 3000 for data gaps, lack of NOEL.		TOX reassess 10/30/87.	
A.I. CODE:		ONCO: Class B2 (CAG/TOX)				Q*= 0.140000		Q* calculated.		EPA deferred 2/25/88. New monkey study submitted.	
CFR No. 180.								EBDC plant metabolite.		WHO last reviewed 1986.	

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
55014AA	EGGS-WHOLE	10 RAW-FRESH OR NFS		P 0.000000	0.006000		100.00	0.006000
55014AA	EGGS-WHOLE	21 COOKED-NFS		P 0.000000	0.006000		100.00	0.006000
55014AA	EGGS-WHOLE	22 COOKED-FRESH-BAKED		P 0.000000	0.006000		100.00	0.006000
55014AA	EGGS-WHOLE	23 COOKED-FRESH-BOILED		P 0.000000	0.006000		100.00	0.006000
55014AA	EGGS-WHOLE	25 COOKED-FRESH-FRIED		P 0.000000	0.006000		100.00	0.006000
55014AB	EGGS-WHITE ONLY	10 RAW-FRESH OR NFS		P 0.000000	0.006000		100.00	0.006000
55014AB	EGGS-WHITE ONLY	21 COOKED-NFS		P 0.000000	0.006000		100.00	0.006000
55014AB	EGGS-WHITE ONLY	22 COOKED-FRESH-BAKED		P 0.000000	0.006000		100.00	0.006000
55014AB	EGGS-WHITE ONLY	62 COOKED-FRESH OR FROZEN-BAKED		P 0.000000	0.006000		100.00	0.006000
55014AB	EGGS-WHITE ONLY	81 COOKED-FROZEN		P 0.000000	0.006000		100.00	0.006000
55014AC	EGGS-YOLK ONLY	10 RAW-FRESH OR NFS		P 0.000000	0.006000		100.00	0.006000
55014AC	EGGS-YOLK ONLY	21 COOKED-NFS		P 0.000000	0.006000		100.00	0.006000
55014AC	EGGS-YOLK ONLY	25 COOKED-FRESH-FRIED		P 0.000000	0.006000		100.00	0.006000
55014AC	EGGS-YOLK ONLY	31 COOKED-FRESH OR CANNED		P 0.000000	0.006000		100.00	0.006000
55015BA	CHICKEN-BYP	00 NOT SPECIFIED (NO CONSUMPTION)		P 0.000000	0.008000		100.00	0.008000
55015LA	CHICKEN-ORGAN	21 COOKED-NFS		P 0.000000	0.008000		100.00	0.008000
55015LA	CHICKEN-ORGAN	25 COOKED-FRESH-FRIED		P 0.000000	0.008000		100.00	0.008000
55015LA	CHICKEN-ORGAN	26 COOKED-FRESH-PICKLED, CORNED, OR CURED		P 0.000000	0.008000		100.00	0.008000
55015NA	CHICKEN-W/O SKIN	21 COOKED-NFS		P 0.000000	0.009000		100.00	0.009000
55015NA	CHICKEN-W/O SKIN	22 COOKED-FRESH-BAKED		P 0.000000	0.009000		100.00	0.009000
55015NA	CHICKEN-W/O SKIN	25 COOKED-FRESH-FRIED		P 0.000000	0.009000		100.00	0.009000
55015NA	CHICKEN-W/O SKIN	31 COOKED-FRESH OR CANNED		P 0.000000	0.009000		100.00	0.009000
55015NA	CHICKEN-W/O SKIN	53 COOKED-CANNED-BOILED		P 0.000000	0.009000		100.00	0.009000
55015NB	CHICKEN+SKIN	21 COOKED-NFS		P 0.000000	0.009000		100.00	0.009000
55015NB	CHICKEN+SKIN	25 COOKED-FRESH-FRIED		P 0.000000	0.009000		100.00	0.009000

Table 2

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 06/29/88

PAGE: 1

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			IPADI SF	-->1000		
Maneb	6mo feeding- monkey	Increased thyroid weight, inhibition of I-131 uptake at 3000 ppm.	5.0000 mg/kg	OPP RED= 0.005000	Chronic feeding- dog	TOX complete 10/15/86.
Caswell #539	NOEL=		100.00 ppm	EPA RED= 0.005000	Chronic feeding- rat	TOX reassess 9/28/87.
CAS No. 12427-38-2	LEL=	No adequate oncogenicity data available (see ETU).	15.0000 mg/kg		Reproduction	EPA verified 10/14/87
A.I. CODE: 014505	300.00 ppm		300.00 ppm		Teratology- 2 species	
CFR No. 180.110	ONCO: Undetermined.					WHO last reviewed 1980; see Mancozeb.
POPULATION SUBGROUP						
TOTAL TMRC (MG/KG BODY WEIGHT/DAY)						
CURRENT TMRC*		NEW TMRC**		DIFFERENCE AS PERCENT OF RFD		EFFECT OF ANTICIPATED RESIDUES %RFD
U.S. POPULATION - 48 STATES						
0.030265		0.030265		605.316440		0.003652 73.04082
U.S. POPULATION - SPRING SEASON						
0.028340		0.028340		566.810780		0.003565 71.30770
U.S. POPULATION - SUMMER SEASON						
0.032196		0.032196		643.932580		0.004315 86.30476
U.S. POPULATION - FALL SEASON						
0.030371		0.030371		607.436200		0.003380 67.60208
U.S. POPULATION - WINTER SEASON						
0.029973		0.029973		599.478700		0.003349 66.99768
NORTHEAST REGION						
0.031533		0.031533		630.664760		0.003922 78.45688
NORTH CENTRAL REGION						
0.028775		0.028775		575.517260		0.003471 69.43556
SOUTHERN REGION						
0.028118		0.028118		562.369440		0.003253 65.06586
WESTERN REGION						
0.034200		0.034200		684.004080		0.004243 84.86854
HISPANICS						
0.031923		0.031923		638.479560		0.003649 72.99448
NON-HISPANIC WHITES						
0.030458		0.030458		609.162860		0.003614 72.28572
NON-HISPANIC BLACKS						
0.027547		0.027547		550.946940		0.003845 76.90340
NON-HISPANIC OTHERS						
0.032942		0.032942		658.854360		0.004108 82.17128
NURSING INFANTS (< 1 YEAR OLD)						
0.071299		0.071299		1425.980500		0.008265 165.31022
NON-NURSING INFANTS (< 1 YEAR OLD)						
0.114500		0.114500		2290.016540		0.015801 316.03870
FEMALES (13+ YEARS, PREGNANT)						
0.022697		0.022697		453.955320		0.002704 54.08500
FEMALES 13+ YEARS, NURSING						
0.028975		0.028975		579.516260		0.004335 86.71540
CHILDREN (1-6 YEARS OLD)						
0.064401		0.064401		1288.028420		0.006509 130.19476
CHILDREN (7-12 YEARS OLD)						
0.041119		0.041119		822.399900		0.005024 100.49044
MALES (13-19 YEARS OLD)						
0.024733		0.024733		494.676200		0.002848 56.97390
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)						
0.023278		0.023278		465.579480		0.002690 53.81474
MALES (20 YEARS AND OLDER)						
0.022151		0.022151		443.025720		0.002725 54.50602
FEMALES (20 YEARS AND OLDER, NOT PREG. OR NURS)						
0.023771		0.023771		475.431360		0.003127 62.54930

*Current TMRC does not include new or pending tolerances.

**New TMRC includes new, pending, and published tolerances.

Table 2a

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
ETU from Maneb	2yr feeding- rat	Increased incidence of thyroid hyperplasia.	PADI SF -->3000	Reproduction	TOX complete 9/26/86.
Caswell #443AA	NOEL= 0.0000 mg/kg	Evidence of oncogenicity in rats (thyroid) and mice (liver).	OPP RfD= 0.000080	Chronic feeding- dog	EPA verified 12/09/86.
CAS No. 96-45-7	0.00 ppm		EPA RfD= 0.000030	UF 3000 for data gaps, lack of NOEL.	TOX reassess 10/30/87.
A.I. CODE:	LEL= 0.2500 mg/kg		Q* = 0.140000	Q* calculated.	EPA deferred 2/25/88. New monkey study submitted.
CFR No. 180.	5.00 ppm			EBDC plant metabolite.	WHO last reviewed 1986.
	ONCO: Class B2 (CAG/TOX)				

TOTAL TMRC (MG/KG BODY WEIGHT/DAY) EFFECT OF ANTICIPATED RESIDUES

POPULATION SUBGROUP	CURRENT TMRC*	NEW TMRC**	NEW TMRC AS PERCENT OF RFD	DIFFERENCE AS PERCENT OF RFD	ARC	%RFD
U.S. POPULATION - 48 STATES					0.000462	577.58625
U.S. POPULATION - SPRING SEASON					0.000449	562.06750
U.S. POPULATION - SUMMER SEASON					0.000442	552.51125
U.S. POPULATION - FALL SEASON					0.000476	595.11125
U.S. POPULATION - WINTER SEASON					0.000480	600.65000
NORTHEAST REGION					0.000512	640.43875
NORTH CENTRAL REGION					0.000403	504.86125
SOUTHERN REGION					0.000428	536.05625
WESTERN REGION					0.000537	671.45750
HISPANICS					0.000397	497.49125
NON-HISPANIC WHITES					0.000447	559.21250
NON-HISPANIC BLACKS					0.000582	728.01000
NON-HISPANIC OTHERS					0.000504	630.47750
NURSING INFANTS (< 1 YEAR OLD)					0.000684	855.31625
NON-NURSING INFANTS (< 1 YEAR OLD)					0.001845	2306.44625
FEMALES (13+ YEARS, PREGNANT)					0.000321	401.30125
FEMALES 13+ YEARS, NURSING CHILDREN (1-6 YEARS OLD)					0.000656	820.68750
CHILDREN (7-12 YEARS OLD)					0.000903	1129.54625
MALES (13-19 YEARS OLD)					0.000608	761.17875
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)					0.000344	430.22250
MALES (20 YEARS AND OLDER)					0.000297	371.54500
FEMALES (20 YEARS AND OLDER, NOT PREG. OR NURS)					0.000360	450.41000
					0.000390	487.97500

This portion of the analysis summary is not applicable.

*Current TMRC does not include new or pending tolerances.
 **New TMRC includes new, pending, and published tolerances.