



3-3-88

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

MAR 3 1988

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Cyfluthrin - TAS Dietary Exposure Assessment
(FAP# 6H5515)

FROM: Susan L. Stanton
Tolerance Assessment Program
HED/RCB (TS-769C)

Susan L. Stanton 3/2/88

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

TO: George T. LaRocca, PM 15
Insecticide-Rodenticide Branch
Registration Division (TS-767)

Action Requested

Provide an estimate of dietary exposure resulting from the proposed new use of cyfluthrin (Baythroid) in food handling establishments (FAP# 6H5515).

Discussion

1. The Reference Dose (ADI) used in the analysis was 0.02 mg/kg body wt/day, based on a NOEL of 2.0 mg/kg body wt/day from a 2-year rat feeding study with a safety factor of 100. This value has been verified by Agency reference dose committees.

2. Currently, there are no published tolerances for cyfluthrin. The food uses evaluated in this analysis were those proposed in FAP# 6H5515 (0.05 ppm in or on foods or feeds as a result of cyfluthrin use in food handling establishments) and in PP# 4F3046/4H5427 (cotton, cottonseed oil (FA), and meat and milk). Residue Chemistry Branch has reviewed the petitions and recommended that the proposed tolerances be established (memo Arne to Gardner, 2/14/85; memo Bradley to LaRocca, 2/11/88). A complete listing of residue information is provided in the attached Table 1.

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3. TAS conducted a routine chronic analysis using proposed tolerances and an assumption of 100% of crop/site treated. The TAS routine chronic analysis estimates the Theoretical Maximum Residue Contribution (TMRC) for the U.S. Population and each of 22 subgroups (see Table 2). The TMRC for the U.S. Population was calculated to be 0.000883 mg/kg/day, which occupies approximately 4% of the Acceptable Daily Intake (ADI). The two most highly exposed subgroups were non-nursing infants (0.002374 mg/kg/day or 12% of the ADI) and children, ages 1 to 6 (0.001941 mg/kg/day or 10% of the ADI). The effect of the current action (FAP# 6H5515 only) on exposure is shown below:

	<u>Current Petition (6H5515)</u>	<u>Other Pending Petitions</u>	<u>Total</u>
U.S. Population	0.000625 ^a (3.1) ^b	0.000258 (1.3)	0.000883 (4.4)
Non-Nursing Infants	0.001600 (8.0)	0.000774 (3.9)	0.002374 (11.9)
Children, 1-6	0.001426 (7.1)	0.000515 (2.6)	0.001941 (9.7)

^aTMRC in mg/kg/day.

^bTMRC as percent of the ADI.

5. As stated above, this analysis used proposed tolerances with an assumption of 100% of crop/site treated. This conservative approach likely overestimates risk significantly; however, since it produces an acceptable theoretical exposure, no further data are required at this time.

cc. TAS File	Cyfluthrin SF
Reading File	FAP# 6H5515
circ.	
TOX (Rathman)	

Table 1

CHEMICAL INFORMATION FOR CASWELL NUMBER 266E

DATE: 03/02/88

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	100		
Cyfluthrin (Baythroid)	2yr feeding- rat	Decreased body weights;			No data gaps.	TOX complete 3/14/86.
Caswell #266E	NOEL=	inflammation of kidney.	OPP RfD= 0.020000			ORD verified 4/8/86.
CAS No. 68359-37-5	50.00 ppm	Doses based on food con-	EPA RfD= 0.025000		TOX to reevaluate RfD	WHO last reviewed 1987.
A.I. CODE: 128831	LEL=	sumption.			6/12/87.	
CFR No. 180.	150.00 ppm	No evidence of oncogeni-	WHO RfD 0.020000			
	ONCO: Negative- 2 species.	city in rats or mice.	Type: ADI			On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			PENDING	PUBLISHED
01002AA	BLACKBERRIES	6H5515	0.050000	H
01003AA	BOYSENBERRIES	6H5515	0.050000	H
01004AA	DEWBERRIES	6H5515	0.050000	H
01005AA	LOGANBERRIES	6H5515	0.050000	H
01006AA	RASPBERRIES	6H5515	0.050000	H
01007AA	YOUNGBERRIES	6H5515	0.050000	H
01009AA	BLUEBERRIES	6H5515	0.050000	H
01010AA	CRANBERRIES	6H5515	0.050000	H
01010JA	CRANBERRIES-JUICE	6H5515	0.050000	H
01011AA	CURRENTS	6H5515	0.050000	H
01012AA	ELDERBERRIES	6H5515	0.050000	H
01013AA	GOOSEBERRIES	6H5515	0.050000	H
01014AA	GRAPES-FRESH	6H5515	0.050000	H
01014DA	GRAPES-RAISINS	6H5515	0.050000	H
01014JA	GRAPES-JUICE	6H5515	0.050000	H
01015AA	HUCKLEBERRIES (GAYLUSSACIA)	6H5515	0.050000	H
01016AA	STRAWBERRIES	6H5515	0.050000	H
01024AA	JUNE BERRY	6H5515	0.050000	H
01025AA	MULBERRIES	6H5515	0.050000	H
02001AA	CITRUS CITRON	6H5515	0.050000	H
02002AA	GRAPEFRUIT-UNSPECIFIED	6H5515	0.050000	H
02002AB	GRAPEFRUIT-PULP	6H5515	0.050000	H
02002JA	GRAPEFRUIT-JUICE	6H5515	0.050000	H
02003AA	KUMQUATS	6H5515	0.050000	H
02004AA	LEMONS-UNSPECIFIED	6H5515	0.050000	H
02004AB	LEMONS-PULP	6H5515	0.050000	H
02004HA	LEMONS-PEEL	6H5515	0.050000	H
02004JA	LEMONS-JUICE	6H5515	0.050000	H
02005AA	LIMES-UNSPECIFIED	6H5515	0.050000	H
02005AB	LIMES-PULP	6H5515	0.050000	H
02005HA	LIMES-PEEL	6H5515	0.050000	H
02005JA	LIMES-JUICE	6H5515	0.050000	H
02006AA	ORANGES-UNSPECIFIED	6H5515	0.050000	H
02006AB	ORANGES-PULP	6H5515	0.050000	H
02006HA	ORANGES-PEEL	6H5515	0.050000	H
02006JA	ORANGES-JUICE	6H5515	0.050000	H
02007AA	TANGELOS	6H5515	0.050000	H
02008AA	TANGERINES	6H5515	0.050000	H
02008JA	TANGERINE-JUICE	6H5515	0.050000	H
03001AA	ALMONDS	6H5515	0.050000	H

Table 1 (con't.)

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CHEMICAL INFORMATION FOR CASWELL NUMBER 266E

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	100		
Cyfluthrin (Baythroid)	2yr feeding- rat	Decreased body weights;			No data gaps.	TOX complete 3/14/86.
Caswell #266E	NOEL= 2.0000 mg/kg	inflammation of kidney.	OPP RfD= 0.020000			ORD verified 4/8/86.
CAS NO. 68359-37-5	50.00 ppm	Doses based on food con-	EPA RfD= 0.025000		TOX to reevaluate RfD	WHO last reviewed 1987.
A.I. CODE: 128831	LEL= 6.2000 mg/kg	sumption.			6/12/87.	
CFR NO. 180.	150.00 ppm	No evidence of oncogeni-	WHO RfD 0.020000			
	ONCO: Negative- 2 species.	city in rats or mice.	Type: ADI			On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			PENDING	PUBLISHED
03002AA	BRAZIL NUTS	6H5515	0.050000	H
03003AA	CASHEWS	6H5515	0.050000	H
03004AA	CHESTNUTS	6H5515	0.050000	H
03005AA	FILBERTS, HAZELNUTS	6H5515	0.050000	H
03006AA	HICKORY NUTS	6H5515	0.050000	H
03007AA	MACADAMIA NUTS (BUSH NUTS)	6H5515	0.050000	H
03008AA	PECANS	6H5515	0.050000	H
03009AA	WALNUTS	6H5515	0.050000	H
03010AA	BUTTER NUTS	6H5515	0.050000	H
03011AA	PISTACHIO NUTS	6H5515	0.050000	H
03013AA	BEECHNUTS	6H5515	0.050000	H
04001AA	APPLES-FRESH	6H5515	0.050000	H
04001DA	APPLES-DRIED	6H5515	0.050000	H
04001JA	APPLES-JUICE	6H5515	0.050000	H
04002AA	CRABAPPLES	6H5515	0.050000	H
04003AA	PEARS-FRESH	6H5515	0.050000	H
04003DA	PEARS-DRIED	6H5515	0.050000	H
04004AA	QUINCES	6H5515	0.050000	H
05001AA	APRICOTS-FRESH	6H5515	0.050000	H
05001DA	APRICOTS-DRIED	6H5515	0.050000	H
05002AA	CHERRIES-FRESH	6H5515	0.050000	H
05002DA	CHERRIES-DRIED	6H5515	0.050000	H
05002JA	CHERRIES-JUICE	6H5515	0.050000	H
05003AA	NECTARINES	6H5515	0.050000	H
05004AA	PEACHES-FRESH	6H5515	0.050000	H
05004DA	PEACHES-DRIED	6H5515	0.050000	H
05005AA	PLUMS(DAMSONS)-FRESH	6H5515	0.050000	H
05005DA	PLUMS-PRUNES(DRIED)	6H5515	0.050000	H
05005JA	PLUMS, PRUNE- JUICE	6H5515	0.050000	H
06001AA	AVOCADOS	6H5515	0.050000	H
06002AA	BANANAS-UNSPECIFIED	6H5515	0.050000	H
06002AB	BANANAS-FRESH	6H5515	0.050000	H
06002DA	BANANAS-DRIED	6H5515	0.050000	H
06003AA	COCONUT-FRESH	6H5515	0.050000	H
06003DA	COCONUT-COPRA	6H5515	0.050000	H
06003JA	COCONUT-WATER	6H5515	0.050000	H
06004AA	DATES	6H5515	0.050000	H
06005AA	FIGS	6H5515	0.050000	H
06006AA	GUAVA	6H5515	0.050000	H
06007AA	MANGOES	6H5515	0.050000	H

Table 1 (con't.)

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CHEMICAL INFORMATION FOR CASWELL NUMBER 266E

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	100		
Cyfluthrin (Baythroid)	2yr feeding- rat	Decreased body weights;			No data gaps.	TOX complete 3/14/86.
Caswell #266E	NOEL=	inflammation of kidney.	OPP RfD= 0.020000			ORD verified 4/8/86.
CAS No. 68359-37-5	50.00 ppm	Doses based on food con-	EPA RfD= 0.025000		TOX to reevaluate RfD	WHO last reviewed 1987.
A.I. CODE: 128831	LEL=	sumption.			6/12/87.	
CFR No. 180.	150.00 ppm	No evidence of oncogeni-	WHO RfD 0.020000			
	ONCO: Negative- 2 species.	city in rats or mice.	Type: ADI			On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			PENDING	PUBLISHED
06008AA	LOQUATS	6H5515	0.050000	H
06009AA	OLIVES	6H5515	0.050000	H
06010AA	PAPAYAS-UNSPECIFIED	6H5515	0.050000	H
06010AB	PAPAYAS-PULP	6H5515	0.050000	H
06010DA	PAPAYAS-DRIED	6H5515	0.050000	H
06010JA	PAPAYAS-JUICE	6H5515	0.050000	H
06011AA	PAPAWAS	6H5515	0.050000	H
06012AA	PERSIMMONS	6H5515	0.050000	H
06013AA	PINEAPPLE-FRESH, PULP	6H5515	0.050000	H
06013DA	PINEAPPLE-DRIED	6H5515	0.050000	H
06013JA	PINEAPPLE-FRESH, JUICE	6H5515	0.050000	H
06014AA	PASSION FRUIT (GRANADILLA)	6H5515	0.050000	H
06015AA	POMEGRANATES	6H5515	0.050000	H
06016AA	PLANTAINS	6H5515	0.050000	H
06017AA	LYCHEES (LITCHI)	6H5515	0.050000	H
06017DA	LYCHEE-DRIED	6H5515	0.050000	H
06018AA	KIWI	6H5515	0.050000	H
06020AA	ACEROLA	6H5515	0.050000	H
06021AA	GINNGO NUTS	6H5515	0.050000	H
06022AA	MANEY (MAMEE APPLE)	6H5515	0.050000	H
06023AA	PITANGA (SURINAM CHERRY)	6H5515	0.050000	H
06024AA	SOURSOP (ANNONA MURICATA)	6H5515	0.050000	H
06025AA	SUGAR APPLES (SWEETSOP)	6H5515	0.050000	H
06026AA	BREAD FRUIT	6H5515	0.050000	H
06027AA	BREAD NUTS	6H5515	0.050000	H
06029AA	CARAMBOLA	6H5515	0.050000	H
06030AA	CHERIMOYA	6H5515	0.050000	H
06031AA	LONGAN FRUIT	6H5515	0.050000	H
06033AA	GENIP (SPANISH LINE)	6H5515	0.050000	H
07001FA	COCOA BUTTER	6H5515	0.050000	H
07001SA	CHOCOLATE	6H5515	0.050000	H
07002AA	COFFEE	6H5515	0.050000	H
07003AA	TEA	6H5515	0.050000	H
07006AA	CHICORY	6H5515	0.050000	H
08004AA	ANICE	6H5515	0.050000	H
08006AA	BASIL	6H5515	0.050000	H
08007AA	CARRAWAY	6H5515	0.050000	H
08008AA	CASSIA	6H5515	0.050000	H
08011AA	CINNAMON	6H5515	0.050000	H
08012AA	CLOVE	6H5515	0.050000	H

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Table 1 (con't.)

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CHEMICAL INFORMATION FOR CASWELL NUMBER 266E

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	100		
Cyfluthrin (Baythroid)	2yr feeding- rat	Decreased body weights;			No data gaps.	TOX complete 3/14/86.
Caswell #266E	NOEL= 2,000 mg/kg	inflammation of kidney.	OPP RfD= 0.020000			ORD verified 4/8/86.
CAS No. 68359-37-5	50.00 ppm	Doses based on food con-	EPA RfD= 0.025000		TOX to reevaluate RfD	WHO last reviewed 1987.
A.I. CODE: 128831	LEL= 6,200 mg/kg	sumption.			6/12/87.	
CFR No. 180.	150.00 ppm	No evidence of oncogeni-	WHO RfD 0.020000			
	ONCO: Negative- 2 species.	city in rats or mice.	Type: ADI			On IRIS.
FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)			
			NEW	PENDING		
08013AA	CORIANDER	6H5515	0.050000			H
08014AA	CUMIN	6H5515	0.050000			H
08015AA	DILL	6H5515	0.050000			H
08019AA	GINGER	6H5515	0.050000			H
08020AA	HOPS	6H5515	0.050000			H
08022AA	HORSEADISH	6H5515	0.050000			H
08023AA	ROSEMARY	6H5515	0.050000			H
08026AA	MARJORAM	6H5515	0.050000			H
08026AB	OREGANO	6H5515	0.050000			H
08028AA	MUSTARD SEED	6H5515	0.050000			H
08029AA	NUTMEG	6H5515	0.050000			H
08029AB	MACE	6H5515	0.050000			H
08035AA	SAGE	6H5515	0.050000			H
08036AA	SAVORY	6H5515	0.050000			H
08038AA	BAY	6H5515	0.050000			H
08042AA	THYME	6H5515	0.050000			H
08043AA	TURMERIC	6H5515	0.050000			H
08047AA	ALLSPICE	6H5515	0.050000			H
08048DA	PAPRIKA	6H5515	0.050000			H
08049AA	POPPY	6H5515	0.050000			H
10002AA	CANTALOUPE-UNSPECIFIED	6H5515	0.050000			H
10002AB	CANTALOUPE-PULP	6H5515	0.050000			H
10003AA	CASABAS	6H5515	0.050000			H
10004AA	CRENSHAW	6H5515	0.050000			H
10005AA	HONEYDEW MELONS	6H5515	0.050000			H
10007AA	PERSION MELONS	6H5515	0.050000			H
10008AA	WATERMELON	6H5515	0.050000			H
10010AA	CUCUMBERS	6H5515	0.050000			H
10011AA	PUMPKIN	6H5515	0.050000			H
10013AA	SQUASH-SUMMER	6H5515	0.050000			H
10014AA	SQUASH-WINTER	6H5515	0.050000			H
10017AA	BITTER MELON	6H5515	0.050000			H
10020AA	TOMELCOURD	6H5515	0.050000			H
11001AA	EGGPLANT	6H5515	0.050000			H
11003AA	PEPPERS, SWEET, GARDEN	6H5515	0.050000			H
11003AB	CHILI PEPPERS	6H5515	0.050000			H
11003AD	PEPPERS-OTHER	6H5515	0.050000			H
11004AA	PIMENTOS	6H5515	0.050000			H
11005AA	TOMATOES-WHOLE	6H5515	0.050000			H
11005JA	TOMATOES-JUICE	6H5515	0.050000			H

Table 1 (con't.)

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CHEMICAL INFORMATION FOR CASWELL NUMBER 266E

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	100		
Cyfluthrin (Baythroid)	2yr feeding- rat	Decreased body weights;			No data gaps.	TOX complete 3/14/86.
Caswell #266E	NOEL= 2.0000 mg/kg	inflammation of kidney.	OPR RfD= 0.020000			ORD verified 4/8/86.
CAS No. 68359-37-5	50.00 ppm	Doses based on food con-	EPA RfD= 0.025000		TOX to reevaluate RfD	WHO last reviewed 1987.
A.I. CODE: 128831	LEL= 6.2000 mg/kg	sumption.			6/12/87.	
CFR No. 180.	150.00 ppm	No evidence of oncogeni-	WHO RfD 0.020000			
	ONCO: Negative- 2 species.	city in rats or mice.	Type: ADI			On IRIS.

TOLERANCE (PPM)

PETITION

FOOD NAME

PENDING

NUMBER

NEW

PUBLISHED

11005RA	TOMATOES-PUREE	6H5515	0.050000	H
11005TA	TOMATOES-PASTE	6H5515	0.050000	H
11005UA	TOMATOES-CATSUP	6H5515	0.050000	H
11006AA	GROUNDCHERRIES (FOHA/CAPE-GOOSEBERRIES)	6H5515	0.050000	H
13001AA	BEETS-TOPS(GREENS)	6H5515	0.050000	H
13002AA	CELERY	6H5515	0.050000	H
13003AA	CHICORY (FRENCH OR BELGIAN ENDIVE)	6H5515	0.050000	H
13005AA	BROCCOLI	6H5515	0.050000	H
13006AA	BRUSSEL SPROUTS	6H5515	0.050000	H
13007AA	CABBAGE-GREEN AND RED	6H5515	0.050000	H
13008AA	CAULIFLOWER	6H5515	0.050000	H
13009AA	COLLARDS	6H5515	0.050000	H
13010AA	CABBAGE-CHINESE/CELERY, INC. BOK CHOY	6H5515	0.050000	H
13011AA	KALE	6H5515	0.050000	H
13012AA	KOHLRABI	6H5515	0.050000	H
13013AA	LETTUCE-LEAFY VARIETIES	6H5515	0.050000	H
13014AA	DANDELION	6H5515	0.050000	H
13015AA	ENDIVE, CURLEY AND ESCAROLE	6H5515	0.050000	H
13016AA	FENNEL	6H5515	0.050000	H
13017AA	CRESS, GARDEN, FIELD	6H5515	0.050000	H
13018AA	ARTICHOKES-GLOBE	6H5515	0.050000	H
13020AA	LETTUCE-UNSPECIFIED	6H5515	0.050000	H
13021AA	MUSTARD GREENS	6H5515	0.050000	H
13022AA	PARSLEY	6H5515	0.050000	H
13023AA	RHUBARB	6H5515	0.050000	H
13024AA	SPINACH	6H5515	0.050000	H
13025AA	SWISS CHARD	6H5515	0.050000	H
13026AA	TURNIPS-TOPS	6H5515	0.050000	H
13027AA	WATERCRESS	6H5515	0.050000	H
13034AA	TARO-GREENS	6H5515	0.050000	H
13039AA	CRESS, UPLAND	6H5515	0.050000	H
13045AA	LETTUCE-HEAD VARIETIES	6H5515	0.050000	H
13047AA	LAMBSQUARTER	6H5515	0.050000	H
13048AA	CACTUS PADS	6H5515	0.050000	H
13049AA	GRAPES-LEAVES	6H5515	0.050000	H
13999AA	LEAFY ORIENTAL VEGETABLES	6H5515	0.050000	H
14001AA	BEETS-ROOTS	6H5515	0.050000	H
14003AA	CARROTS	6H5515	0.050000	H
14004AA	CELERIAC	6H5515	0.050000	H
14005AA	CHIVES	6H5515	0.050000	H

Table 1 (con't.)

CHEMICAL INFORMATION FOR CASWELL NUMBER 2666

DATE: 03/02/88

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Cyfluthrin (Baythroid)	2 yr feeding- rat	Decreased body weights;	ADI 100	No data gaps.	TOX complete 3/14/86.
Caswell #266E	NOEL= 2,000 mg/kg	inflammation of kidney.	OPP RfD= 0.020000		ORD verified 4/8/86.
CAS No. 68359-37-5	50.00 ppm	Doses based on food con-	EPA RfD= 0.025000	TOX to reevaluate RfD	WHO last reviewed 1987.
A.I. CODE: 128831	LEL= 6,200 mg/kg	sumption.		6/12/87.	
CFR No. 180.	150.00 ppm	No evidence of oncogeni-	WHO RfD 0.020000		
	ONCO: Negative- 2 species.	city in rats or mice.	Type: ADI		On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	NEW	TOLERANCE (PPM)	
				PENDING	PUBLISHED
14006AA	TARO-ROOT	6H5515	0.050000		H
14007AA	GARLIC	6H5515	0.050000		H
14009AA	ARTICHOKES-JERUSALEM	6H5515	0.050000		H
14010AA	LEEK	6H5515	0.050000		H
14011AA	ONIONS-DRY-BULB (CIPOLLINI)	6H5515	0.050000		H
14011CA	ONIONS-DEHYDRATED OR DRIED	6H5515	0.050000		H
14013AA	POTATOES(WHITE)-WHOLE	6H5515	0.050000		H
14013AB	POTATOES(WHITE)-UNSPECIFIED	6H5515	0.050000		H
14013AC	POTATOES(WHITE)-PEELED	6H5515	0.050000		H
14013DA	POTATOES(WHITE)-DRY	6H5515	0.050000		H
14013HA	POTATOES(WHITE)-PEEL ONLY	6H5515	0.050000		H
14014AB	RADISHES-ROOTS	6H5515	0.050000		H
14014AB	RADISHES-TOPS	6H5515	0.050000		H
14015AA	RUTABAGAS-ROOTS	6H5515	0.050000		H
14015AB	RUTABAGAS-TOPS	6H5515	0.050000		H
14016AA	SALSIFY(OYSTER PLANT)	6H5515	0.050000		H
14017AA	SHALLOTS	6H5515	0.050000		H
14018AA	SWEETPOTATOES (INCLUDING YAMS)	6H5515	0.050000		H
14019AA	TURNIPS-ROOTS	6H5515	0.050000		H
14021AA	PARSNIPS	6H5515	0.050000		H
14024AA	YAMBEAN, TUBER	6H5515	0.050000		H
14026AA	CASSAVA (YUCA BLANCA)	6H5515	0.050000		H
14026AB	TAPIOCA	6H5515	0.050000		H
14028AA	YAUTIA, TANNIER	6H5515	0.050000		H
14030AA	PARSLEY ROOTS	6H5515	0.050000		H
14031AA	WATER CHESTNUTS	6H5515	0.050000		H
15001AA	BEANS-DRY-GREAT NORTHERN	6H5515	0.050000		H
15001AB	BEANS-DRY-KIDNEY	6H5515	0.050000		H
15001AC	BEANS-DRY-LIMA	6H5515	0.050000		H
15001AD	BEANS-DRY-NAVY (PEA)	6H5515	0.050000		H
15001AE	BEANS-DRY-OTHER	6H5515	0.050000		H
15001AF	BEANS-DRY-PINTO	6H5515	0.050000		H
15002AA	BEANS-SUCCULENT-LIMA	6H5515	0.050000		H
15003AA	BEANS-SUCCULENT-GREEN	6H5515	0.050000		H
15003AB	BEANS-SUCCULENT-OTHER	6H5515	0.050000		H
15003AC	BEANS-SUCCULENT-YELLOW, WAX	6H5515	0.050000		H
15004AA	CORN, POP	6H5515	0.050000		H
15005AA	CORN, SWEET	6H5515	0.050000		H
15006AA	PEANUTS-WHOLE	6H5515	0.050000		H
15007AA	PEAS(GARDEN)-MATURE SEEDS, DRY	6H5515	0.050000		H

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Table 1 (con't.)

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CHEMICAL INFORMATION FOR CASWELL NUMBER 266E

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	100		
Cyfluthrin (Baythroid)	2yr feeding- rat	Decreased body weights; inflammation of kidney.	OPP RED= 0.020000		No data gaps.	TOX complete 3/14/86.
Caswell #266E	NOEL= 2.0000 mg/kg		EPA RED= 0.025000		TOX to reevaluate RED 6/12/87.	ORD verified 4/8/86.
CAS NO. 68359-37-5	50.00 ppm	Doses based on food consumption.				WHO last reviewed 1987.
A.I. CODE: 128831	LEL= 6.2000 mg/kg					
CFR NO. 180.	150.00 ppm	No evidence of oncogenicity in rats or mice.	WHO RED 0.020000			
	ONCO: Negative- 2 species.	city in rats or mice.	Type: ADI			On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			NEW	PENDING PUBLISHED
15009AA	PEAS(GARDEN)-GREEN IMMATURE	6H5515	0.050000	H
15011AA	LENTILES-WHOLE	6H5515	0.050000	H
15011AB	LENTILES-SPLIT	6H5515	0.050000	H
15013AA	MUNG BEANS (SPROUTS)	6H5515	0.050000	H
15015AA	OKRA	6H5515	0.050000	H
15018AA	SUNFLOWER-SEEDS	6H5515	0.050000	H
15020AA	CAROB	6H5515	0.050000	H
15021AA	ALFALFA SPROUTS	6H5515	0.050000	H
15022AA	BEANS-DRY-BROADBEANS(MATURE SEED)	6H5515	0.050000	H
15022AB	BEANS-SUCCULENT-BROADBEANS(IMMAT. SEED)	6H5515	0.050000	H
15023AA	BEANS-DRY-PIGEON BEANS	6H5515	0.050000	H
15026AA	SESAME SEEDS	6H5515	0.050000	H
15027AA	BEANS-UNSPECIFIED	6H5515	0.050000	H
15028AA	PINENUTS	6H5515	0.050000	H
15029AA	SOYBEANS-SPROUTED SEEDS	6H5515	0.050000	H
15030AA	BEANS-DRY-HYACINTH(MATURE SEEDS)	6H5515	0.050000	H
15030AB	BEANS-SUCCULENT-HYACINTH(YOUNG PODS)	6H5515	0.050000	H
15031AA	BEANS-DRY-BLACKEYE PEAS(COMPEAS)	6H5515	0.050000	H
15032AA	BEANS-DRY-GARBANZO(CHICK PEA)	6H5515	0.050000	H
16002AA	ASPARAGUS	6H5515	0.050000	H
16003AA	MUSHROOMS	6H5515	0.050000	H
16004AA	ONIONS-GREEN	6H5515	0.050000	H
16007AA	POKE GREENS	6H5515	0.050000	H
16008AA	BAMBOO SHOOTS	6H5515	0.050000	H
24001AA	BARLEY	6H5515	0.050000	H
24002EA	CORN, GRAIN-ENDOSPERM	6H5515	0.050000	H
24002HA	CORN GRAIN-BRAN	6H5515	0.050000	H
24002SA	CORN SUGAR	6H5515	0.050000	H
24003AA	OATS	6H5515	0.050000	H
24004AA	RICE-ROUGH	6H5515	0.050000	H
24004AB	RICE-MILLED	6H5515	0.050000	H
24005AA	RYE-ROUGH	6H5515	0.050000	H
24005GA	RYE-GERM	6H5515	0.050000	H
24005WA	RYE-FLOUR	6H5515	0.050000	H
24006AA	SORGHUM (INCLUDING MILO)	6H5515	0.050000	H
24007AA	WHEAT-ROUGH	6H5515	0.050000	H
24007GA	WHEAT-GERM	6H5515	0.050000	H
24007HA	WHEAT-BRAN	6H5515	0.050000	H
24007WA	WHEAT-FLOUR	6H5515	0.050000	H
24012AA	MILLET	6H5515	0.050000	H

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Table 1 (cont.)

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CHEMICAL INFORMATION FOR CASWELL NUMBER 266E

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	100		
Cyfluthrin (Baythroid)	2yr feeding- rat	Decreased body weights;			No data gaps.	TOX complete 3/14/86.
Caswell #266E	NOEL= 2,000 mg/kg	inflammation of kidney.	OPP RfD= 0.020000			ORD verified 4/8/86.
CAS No. 68359-37-5	50.00 ppm	Doses based on food con-	EPA RfD= 0.025000		TOX to reevaluate RfD	WHO last reviewed 1987.
A.I. CODE: 128831	LEL= 6,200 mg/kg	sumption.			6/12/87.	
CFR No. 180.	150.00 ppm	No evidence of oncogeni-	WHO RfD 0.020000			
	ONCO: Negative- 2 species.	city in rats or mice.	Type: ADI			On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			PENDING	PUBLISHED
25001AA	HONEY	6H5515	0.050000	H
25002SA	BEEF SUGAR	6H5515	0.050000	H
25003SA	CANE SUGAR	6H5515	0.050000	H
25003SB	SUGAR-MOLASSES	6H5515	0.050000	H
25004SA	MAPLE SYRUP	6H5515	0.050000	H
26001AA	BUCKWHEAT	6H5515	0.050000	H
26011AA	GUAR BEANS	6H5515	0.050000	H
270010A	CASTOR BEANS	6H5515	0.050000	H
270020A	CORN, GRAIN-OIL	6H5515	0.050000	H
270030A	COTTONSEED-OIL	6H5515	0.050000	H
27003WA	COTTONSEED-MEAL	4H5427	2.000000	H
27004AA	FLAX SEED	4F3046	1.000000	
270070A	PEANUTS-OIL	6H5515	0.050000	H
27008AA	SAFFLOWER-SEED	6H5515	0.050000	H
270080A	SAFFLOWER-OIL	6H5515	0.050000	H
270090A	SESAME-OIL	6H5515	0.050000	H
270100A	SOYBEANS-OIL	6H5515	0.050000	H
270110A	SUNFLOWER-OIL	6H5515	0.050000	H
270150A	COCONUT-OIL	6H5515	0.050000	H
270160A	OLIVE OIL	6H5515	0.050000	H
27017AA	RAPE SEED	6H5515	0.050000	H
270190A	PALM OIL	6H5515	0.050000	H
28023AA	SOYBEANS-UNSPECIFIED	6H5515	0.050000	H
28023AB	SOYBEANS-MATURE, SEEDS DRY	6H5515	0.050000	H
28023WA	SOYBEANS-FLOUR, FULL FAT	6H5515	0.050000	H
28023WB	SOYBEANS-FLOUR, LOW FAT	6H5515	0.050000	H
28023WC	SOYBEANS-FLOUR, DEFATTED	6H5515	0.050000	H
28024AB	ORIENTAL VEGETABLES -NON- LEAFY	6H5515	0.050000	H
28040AA	SEEDS (PUMPKIN, PSYLLIUM, CHIA, APRICOT, ETC)	6H5515	0.050000	H
28080AA	PEPPERMINT	6H5515	0.050000	H
280800A	PEPPERMINT-OIL	6H5515	0.050000	H
28081AA	SPEARMINT	6H5515	0.050000	H
280810A	SPEARMINT-OIL	6H5515	0.050000	H
43057AA	VINEGAR	6H5515	0.050000	H
43058AA	WINE AND SHERRY	6H5515	0.050000	H
43059AA	DISTILLED ALCOHOL	6H5515	0.050000	H
43060AA	GELATIN	6H5515	0.050000	H
50000DB	MILK-NON-FAT SOLIDS	4F3046	0.010000	
50000FA	MILK-FAT SOLIDS	4F3046	0.010000	
50000SA	MILK SUGAR (LACTOSE)	4F3046	0.010000	

Table 1 (con't.)

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Cyfluthrin (Baythroid)	2yr feeding- rat	Decreased body weights; inflammation of kidney.	ADI 100	No data gaps.	TOX complete 3/14/86.
Caswell #266E	NOEL=		OPP RED= 0.020000		ORD verified 4/8/86.
CAS No. 68359-37-5	50.00 ppm	Doses based on food consumption.	EPA RED= 0.025000	TOX to reevaluate RED	WHO last reviewed 1987.
A.I. CODE: 128831	LEL=			6/12/87.	
CFR No. 180.	150.00 ppm	No evidence of oncogenicity in rats or mice.	WHO RED 0.020000		On IRIS.
	ONCO: Negative- 2 species.		Type: ADI		

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)		PUBLISHED
			NEW	PENDING	
333001BA	BEEF-MEAT BYPRODUCTS	4F3046		0.050000	
333001BB	BEEF (ORGAN MEATS)-OTHER	4F3046		0.050000	
333001DA	BEEF-DRIED	4F3046		0.050000	
333001FA	BEEF (BONELESS)-FAT (BEEF TALLOW)	4F3046		0.050000	
333001KA	BEEF (ORGAN MEATS)-KIDNEY	4F3046		0.050000	
333001LA	BEEF (ORGAN MEATS)-LIVER	4F3046		0.050000	
333001MA	BEEF (BONELESS)-LEAN (W/O REMOVEABLE FAT)	4F3046		0.050000	
333002BA	GOAT-MEAT BYPRODUCTS	4F3046		0.050000	
333002BB	GOAT (ORGAN MEATS)-OTHER	4F3046		0.050000	
333002FA	GOAT (BONELESS)-FAT	4F3046		0.050000	
333002KA	GOAT (ORGAN MEATS)-KIDNEY	4F3046		0.050000	
333002LA	GOAT (ORGAN MEATS)-LIVER	4F3046		0.050000	
333002MA	GOAT (BONELESS)-LEAN (W/O REMOVEABLE FAT)	4F3046		0.050000	
333003AA	HORSE	4F3046		0.050000	
333005BA	SHEEP-MEAT BYPRODUCTS	4F3046		0.050000	
333005BB	SHEEP (ORGAN MEATS)-OTHER	4F3046		0.050000	
333005FA	SHEEP (BONELESS)-FAT	4F3046		0.050000	
333005KA	SHEEP (ORGAN MEATS)-KIDNEY	4F3046		0.050000	
333005LA	SHEEP (ORGAN MEATS)-LIVER	4F3046		0.050000	
333005MA	SHEEP (BONELESS)-LEAN (W/O REMOVEABLE FAT)	4F3046		0.050000	
333006BA	PORK-MEAT BYPRODUCTS	4F3046		0.050000	
333006BB	PORK (ORGAN MEATS)-OTHER	4F3046		0.050000	
333006FA	PORK (BONELESS)-FAT (INCLUDING LARD)	4F3046		0.050000	
333006KA	PORK (ORGAN MEATS)-KIDNEY	4F3046		0.050000	
333006LA	PORK (ORGAN MEATS)-LIVER	4F3046		0.050000	
333006MA	PORK (BONELESS)-LEAN (W/O REMOVEABLE FAT)	4F3046		0.050000	
333010AA	FISH-UNSPECIFIED	6H5515	0.050000		
333013AA	FISH-SHELLFISH	6H5515	0.050000		
333014AA	MEAT, GAME	6H5515	0.050000		
333015AA	FISH-ROE, CAVIAR	6H5515	0.050000		
333016AA	FISH-FRESHWATER FINFISH	6H5515	0.050000		
333017AA	FISH-SALTWATER FINFISH	6H5515	0.050000		
333017DA	FISH-FINFISH-SALTWATER-DRIED	6H5515	0.050000		
555008BA	TURKEY-BYPRODUCTS	6H5515	0.050000		
555008LA	TURKEY-GIBLETS (LIVER)	6H5515	0.050000		
555008MA	TURKEY-FLESH (W/O SKIN, W/O BONES)	6H5515	0.050000		
555008MB	TURKEY-FLESH (+SKIN, W/O BONES)	6H5515	0.050000		
555008MC	TURKEY-UNSPECIFIED	6H5515	0.050000		
55013BA	POULTRY, OTHER-BYPRODUCTS	6H5515	0.050000		
55013LA	POULTRY, OTHER-GIBLETS (LIVER)	6H5515	0.050000		

Table 1 (con't.)

CHEMICAL INFORMATION FOR CASWELL NUMBER 266E DATE: 03/02/88 PAGE: 10

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS	STATUS
			ADI	100		
Cyfluthrin (Baythroid)	2yr feeding- rat	Decreased body weights;			No data gaps.	TOX complete 3/14/86.
Caswell #266E	NOEL= 2.0000 mg/kg	inflammation of kidney.	OPP RfD= 0.020000			ORD verified 4/8/86.
CAS No. 68359-37-5	50.00 ppm	Doses based on food con-	EPA RfD= 0.025000		TOX to reevaluate RfD	WHO last reviewed 1987.
A.I. CODE: 128831	LEL= 6.2000 mg/kg	sumption.			6/12/87.	
CFR No. 180.	150.00 ppm	No evidence of oncogeni-	WHO RfD 0.020000			
	ONCO: Negative- 2 species.	city in rats or mice.	Type: ADI			On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)	
			NEW	PENDING PUBLISHED
55013MA	POULTRY OTHER-FLESH (+SKIN, W/O BONES)	6H5515	0.050000	H
55014AA	EGGS-WHOLE	6H5515	0.050000	H
55014AB	EGGS-WHITE ONLY	6H5515	0.050000	H
55014AC	EGGS-YOLK ONLY	6H5515	0.050000	H
55015BA	CHICKEN-BYPRODUCTS	6H5515	0.050000	H
55015LA	CHICKEN-GIBLETS(LIVER)	6H5515	0.050000	H
55015MA	CHICKEN-FLESH(W/O SKIN, W/O BONES)	6H5515	0.050000	H
55015MB	CHICKEN-FLESH(+SKIN, W/O BONES)	6H5515	0.050000	H

Table 2

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS

DATE: 03/01/88

PAGE: 1

CHEMICAL INFORMATION		STUDY TYPE	EFFECTS	REFERENCE DOSES		DATA GAPS/COMMENTS		STATUS
Cyfluthrin (Baythroid)	2yr feeding- rat	Decreased body weights; inflammation of kidney.	ADI	100	No data gaps.	TOX complete 3/14/86.		
Caswell #266E	NOEL= 2.0000 mg/kg		OPP RfD= 0.020000			ORD verified 4/8/86.		
CAS No. 68359-37-5	50.00 ppm	Doses based on food con-	EPA RfD= 0.025000		TOX to reevaluate RfD	WHO last reviewed 1987.		
A.I. CODE: 128831	LEL= 6.2000 mg/kg	sumption.			6/12/87.			
CFR No. 180.	150.00 ppm	No evidence of oncogeni-	WHO RfD 0.020000					
	ONCO: Negative- 2 species.	city in rats or mice.	Type: ADI			On IRIS.		
TOTAL TMRC (MG/KG BODY WEIGHT/DAY)								
POPULATION SUBGROUP	CURRENT TMRC*		NEW TMRC**		DIFFERENCE AS PERCENT OF RFD		EFFECT OF ANTICIPATED RESIDUES	
							ARC	
U.S. POPULATION - 48 STATES	0.000000	0.000883	4.413770	4.413770	4.413770		%RFD	
U.S. POPULATION - SPRING SEASON	0.000000	0.000860	4.302080	4.302080	4.302080			
U.S. POPULATION - SUMMER SEASON	0.000000	0.000893	4.465575	4.465575	4.465575			
U.S. POPULATION - FALL SEASON	0.000000	0.000886	4.430260	4.430260	4.430260			
U.S. POPULATION - WINTER SEASON	0.000000	0.000882	4.410690	4.410690	4.410690			
NORTHEAST REGION	0.000000	0.000911	4.553585	4.553585	4.553585			
NORTH CENTRAL REGION	0.000000	0.000876	4.379635	4.379635	4.379635			
SOUTHERN REGION	0.000000	0.000830	4.151535	4.151535	4.151535			
WESTERN REGION	0.000000	0.000933	4.665120	4.665120	4.665120			
HISPANICS	0.000000	0.001011	5.055640	5.055640	5.055640			
NON-HISPANIC WHITES	0.000000	0.000874	4.371885	4.371885	4.371885			
NON-HISPANIC BLACKS	0.000000	0.000845	4.223240	4.223240	4.223240			
NON-HISPANICS OTHER	0.000000	0.000993	4.965865	4.965865	4.965865			
NURSING INFANTS (<1 YEAR OLD)	0.000000	0.001036	5.180270	5.180270	5.180270			
NON-NURSING INFANTS (<1 YEAR OLD)	0.000000	0.002374	11.867765	11.867765	11.867765			
FEMALES (13+ YEARS, PREGNANT)	0.000000	0.000642	3.210680	3.210680	3.210680			
FEMALES 13+ YEARS, NURSING	0.000000	0.000771	3.853560	3.853560	3.853560			
CHILDREN (1-6 YEARS OLD)	0.000000	0.001941	9.706205	9.706205	9.706205			
CHILDREN (7-12 YEARS OLD)	0.000000	0.001296	6.482390	6.482390	6.482390			
MALES (13-19 YEARS OLD)	0.000000	0.000865	4.323105	4.323105	4.323105			
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)	0.000000	0.000735	3.675895	3.675895	3.675895			
MALES (20 YEARS AND OLDER)	0.000000	0.000674	3.368160	3.368160	3.368160			
FEMALES (20 YEARS AND OLDER)	0.000000	0.000629	3.142990	3.142990	3.142990			

*Current TMRC does not include new or pending tolerances.

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