Debra Edwards (KCCB)
9-25-87

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

SEP 25 1987

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: PROPANIL Cover Memo

FROM: E. Brinson Conerly EBC 9/1/87
SIS Coordinator
Hazard Evaluation Division (TS-769C)

TO: Robert Taylor
Herbicide/Fungicide Branch
Registration Division (TS-769C)

THRU: Amy S. Rispin, Chief
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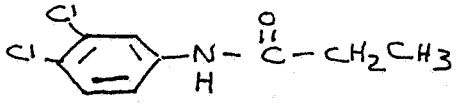
Hazard Evaluation Division (TS-769C) Amy S. Rispin

The Hazard Evaluation Division (HED) has evaluated the data that support the registration of Propanil. This memo summarizes the evaluations completed by the HED Branches and discusses scientific issues associated with the chemical. Data gaps are summarized in Table 1.

INTRODUCTION

Propanil is the BSE, E-ISO, and WSSA approved name for the chemical 3,4'- dichloropropionanilide. Propanil is a selective postemergent herbicide registered for use on terrestrial food crop and aquatic food crop sites. It can control broadleaf weeds and a great variety of gramineae which compete with crops for nutrients. It is formulated as an EC, ultra low volume, and low volume product. It may be formulated with carbaryl or MCPA.

Structure:



According to the Preliminary Quantitative Usage Analysis for Propanil (R. Holtorf, January 1987, BUD, OPP, EPA), more than 95% of the total domestic usage of propanil is on rice, with 70-80% of the crop treated per year (1983-1985). Less than 2-5% of the total usage of propanil is on other small grains.

DATA EVALUATIONS

Toxicology

Based on available data, this compound has relatively low toxicity. However, there were no acceptable acute toxicity or irritation studies for fulfilling Guidelines data requirements.

In rat and rabbit teratology studies, the teratogenic potentials were negative at the highest dose tolerated (HDT) of 100 mg/kg in each study. A three-generation rat reproduction study had a NOEL of 300 ppm, with decreased body weights in parental animals observed at 1000 ppm (HDT).

A 90-day rat feeding study showed increased relative spleen weights in females and decreased hemoglobin in males at 1000 ppm. The NOEL was 330 ppm in the study.

Similarly, a 2-year rat feeding study showed increased relative spleen weights in females at 400 ppm. The NOEL for the study was 100 ppm.

In a 2-year dog feeding study, the effects at 4000 ppm (HDT) were decreased body weights, decreased food consumption, and increased SGOT and SAP values. The NOEL for the study was 600 ppm.

The oncogenic potential could not be determined in the 2-year rat study, due to inadequate histological examination of tissues. The oncogenic potential in mice was negative at 180 ppm (HDT), but it is uncertain that the MTD was tested, and there were other deficiencies in the study.

Propanil was not mutagenic in gene mutation assays, chromosomal aberration assays, and in all but one (B. Subtilis) direct DNA damage assays.

In a rat metabolism study using only males, approximately 90 to 92 percent of the radioactivity was recovered in urine, feces, and cage washings within 2 days. Less than 1 percent was found in rat tissues. The predominant metabolite was 3,4 - dichloroaniline.

The metabolite 3,4-dichloroaniline is common to plant and animal systems. Since its analog 4-chloroaniline is a oncogen, particular attention should be given to 3,4-dichloroaniline when quantifying residues in food crops and livestock as described later in this document.

Ecological Effects

Effects on Birds

No data are available on acute oral toxicity of propanil in birds.

Although the subacute feeding study is not acceptable to satisfy Guidelines requirements, sufficient information is available to allow characterization of the material as slightly toxic to practically nontoxic to birds. Avian reproduction tests may also be required pending results of other studies.

Effects on Fish

There is adequate information to characterize technical propanil as moderately to very highly toxic to fish.

Although the Guidelines requirement has not been satisfied, there is sufficient information to characterize the typical end-use product (TEP) as slightly to moderately toxic to fish.

The Guidelines requirement for a fish early life-stage test has not been satisfied.

Based on the foregoing, precautionary statements for fish are required.

Effects on Freshwater Invertebrates

There is adequate information to characterize technical propanil as moderately to slightly toxic to aquatic invertebrates.

No acceptable data on the TEP is available.

The Guidelines requirement for an aquatic invertebrate life-cycle test has not been satisfied.

Based on the foregoing, no toxicity statement re aquatic invertebrates is required at this time.

Effects on Estuarine and Marine Organisms

Although there is sufficient information to characterize propanil as moderately to slightly toxic to estuarine and marine organisms, the Guidelines requirement has not been satisfied. Based on the foregoing, no toxicity statement is required at this time re marine/estuarine organisms.

Plant Protection

No studies were evaluated for this area. Tier I testing is required for propanil, to assess the potential hazard to both terrestrial and aquatic nontarget plants.

Environmental Fate

Available data are insufficient to assess fully the environmental fate of propanil. Present acceptable information indicates that the compound is stable to hydrolysis at neutral or alkaline pHs, and is mobile to very mobile in most soils. Since the compound is a potential leacher, a ground water monitoring study may be necessary, pending results of environmental fate studies.

There are no acceptable data on photodegradation, soil or aquatic metabolism, field dissipation, rotational crop accumulation, or fish bioaccumulation.

Reentry and exposure assessment data are not required at this time, based on current toxicity information and use patterns.

Product Chemistry

Presently there are three registered technical products, ranging from 85% PAI to 97%, and one unregistered.
Although product chemistry data have been submitted in the past, the Agency has determined that these data must be resubmitted for each pesticide. New requirements have been introduced, and previously submitted data must be updated.

Residue Chemistry

Nature of the Residue in Plants

The available data do not adequately describe the metabolism of propanil in plants because (i) no more than 26% of the total ^{14}C-residues in rice grain or straw following foliar or soil treatment with [^{14}C-ring] propanil was identified; (ii) although caustic hydrolysis of bound residues (> 50% of total ^{14}C residues) released significant amounts of 3,4-dichloroaniline (DCA), no ^{14}C-balance data were provided to indicate what percent of total bound ^{14}C-residues were accounted for by metabolites containing the DCA moiety; (iii) it was determined that bound ^{14}C-residues were not incorporated into natural plant constituents; and (iv) no metabolism studies were conducted on other small grains such as wheat, barley or oats. Additional studies must be performed to completely characterize the residues on foliarly-treated and soil treated rice and wheat. Metabolism studies are also required on barley or oats. The available data, although inadequate, indicate that residues are taken up systemically from soil into rice straw and grain.

Nature of the Residue in Animals

The available data do not adequately describe the nature of the residue in animals because ^{14}C-residues were not characterized in meat, milk, or eggs. Feeding studies are required for ruminants and poultry at a rate sufficient to permit complete characterization of ^{14}C-residues in muscle, fat, kidney, liver, milk, and eggs. Pending results of these studies, a swine metabolism study may also be required. The available data, although inadequate, indicate that ^{14}C-residues of propanil will occur in tissues of ruminants and poultry following ingestion of feeds containing [^{14}C] propanil. Further, the data show that, in milk and eggs, a significant percentage of the ^{14}C-residues may contain the DCA moiety.

Residue Analytical Methods

The nature of the residue in plants and animals has not been adequately described. Therefore, the adequacy of available analytical methods cannot be ascertained. The current preferred enforcement method is the GC procedure listed as Method I in the PAM, Vol. II, Pesticide Reg. Sec. 180.274.

Storage Stability Data

Available data indicate that residues of propanil in frozen rice grain will be stable for up to 525 days and in rice straw kept at room temperature for up to 235 days. On receipt of the plant metabolism and residue analytical method data, a decision will be made as to the usefulness of these data. The following data are required:

1) sample storage information -- conditions and length of time in storage of analyzed samples.

2) analytical data showing stability of propanil residues of concern in similar samples stored for the time intervals and under the conditions specified.

If Method II in the PAM, Vol. II is found to be adequate, no additional storage stability data will be required for plant samples kept frozen for up to 525 days.

If the required animal metabolism and analytical method validation indicate that method II in the PAM, Vol. II is adequate for residues of propanil in meat and milk, then the cattle feeding study (MRID 00035694 and 00035695 must be validated by appropriate data as described above.

Tolerance Assessment

The Provisional Acceptable Daily Intake (PADI) for this chemical is 0.005 mg/kg/day, and has been approved by the Toxicology Branch and Agency Reference Dose Committees (8/12/87). The food uses evaluated by the Tolerance Assessment System (TAS) were published tolerances as established under CFR 180.274. A list of these tolerances is appended.

A TAS estimate was done based on a two year feeding study in rats. A NOEL of 5 mg/kg @ 100.00 ppm and an LEL of 20 mg/kg @ 400 ppm were determined in this study. The observed effect was increased spleen weight in females. The margin of safety used in deriving the propanil PADI is 1000; when the toxicology data gaps are filled, the calculated dietary exposure relationship to the propanil PADI may be considerably lower.

The TAS analysis estimates dietary exposure for the U.S. population average and for each of 22 subgroups. The theoretical dietary exposure of propanil to the U.S. population average is 0.0015 mg per kg per day, which is equivalent to 29% of the PADI.

Currently, the nature of the residue in plants is not adequately understood nor have the analytical methods used for collection of data and tolerance enforcement been shown to adequately recover all residues of concern. The conclusions stated below regarding the adequacy of established tolerances for residues in or on plant commodities may change on receipt of the required metabolism and

analytical method validation data. Pending receipt of the required metabolism and analytical method validation data, the available data indicate that tolerances for residues in or on the grain of barley, oats, and wheat are adequate. The established tolerances for residues in the straw of barley, oats, and wheat are too low, and should be revised from 0.75 ppm to 1.5 ppm provided the required plant metabolism and analytical method validation data are adequate. No food additive tolerance is needed for residues in polished rice, since no concentration occurs. The adequacy of the current feed additive tolerance for residues in rice hulls (where up to a 5x concentration occurs) will be assessed on receipt of the required data. The established feed additive tolerance for residues in rice bran (where up to a 13x concentration occurs) is not adequate, but should not be revised until all data necessary to determine an appropriate level have been received.

Additional data are required to assess the established tolerance for residues in rice grain. A study on processed wheat will also be used for barley and oats. A study on rice grain dust residues is also required. Label restrictions on the disposition of flood water from rice are required to prevent contamination of potable water. Crayfish and catfish residue and metabolism data must be submitted, since these species are often cropped together with rice, or grown in rice flood water, or a label restriction forbidding this exposure may be implemented.

The data are insufficient to assess the established tolerances for residues in meat, milk, and eggs.

Table 1

Propanil Data Gaps

Toxicology

81-1 Acute Oral Toxicity
81-2 Acute Dermal Toxicity
81-3 Acute Inhalation Toxicity
81-4 Primary Eye Irritation
81-5 Primary Dermal Irritation
81-6 Dermal Sensitization
82-1 Subchronic Oral (Nonrodent) waived due to requirement for chronic nonrodent study
82-2 Subchronic Dermal (21 Day)
83-1 Chronic Toxicity (Rodent and Nonrodent)
83-2 Oncogenicity (Rat)
85-1 Metabolism (Rat)

Ecological Effects

71-1 Avian Oral LD_{50}
71-2 Avian Dietary LC_{50}
upland game bird
waterfowl
72-1 Freshwater fish LC_{50}
warm water -- typical end-use product (TEP)
cold water (TEP)
72-2 Acute LC_{50} Freshwater Invertebrates
TEP
72-3 Acute LC_{50} Estuarine and Marine Organisms
72-4 Fish Early Life Stage and Aquatic Invertebrate Life Cycle
Technical Grade Active Ingredient (TGAI)
72-5 Fish Life Cycle
122-1 Seed Germination/Seedling Emergence
122-1 Vegetative Vigor
122-2 Aquatic Plant Growth

Environmental Fate

161-1 Hydrolysis (pH 5 only)
161-2 Photodegradation in Water
161-3 Photodegradation in Soil
162-1 Aerobic Soil Metabolism
162-2 Anaerobic Soil Metabolism
162-3 Anaerobic Aquatic Metabolism
162-4 Aerobic Aquatic Metabolism
163-1 Leaching and Adsorbtion/Desorption
164-1 Soil Degradation (Field)
164-2 Aquatic Degradation (Field)
165-1 Confined Rotational Crops
165-3 Irrigated Crops
165-5 Fish Bioaccumulation

Product Chemistry -- none

61-2 Description of Beginning Materials and Manufacturing Process
61-3 Discussion of Formation of Impurities

62-1 Preliminary Analysis of Product Samples
63-2 Color
63-3 Physical State
63-4 Odor
63-5 Melting Point
63-6 Boiling Point
63-7 Density, Bulk Density, or Specific Gravity
63-8 Solubility
63-9 Vapor Pressure
63-10 Dissociation Constant
63-11 Octanol/Water Partition Coefficient
63-12 pH
63-13 Stability

Residue Chemistry

171-4 Nature of the Residue (Metabolism)
- Plants
- Livestock

171-4 Residue Analytical Methods
171-4 Storage Stability Data
171-4 Magnitude of the Residue
- Barley, Oats, and Wheat
- Processed Products of Barley, Oats, and Wheat
- Rice
- Processed Products of Rice
- Potable and Irrigation Water
- Crayfish
- Catfish
- Meat, Milk, Poultry, and Eggs

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Propanil Caswell #325 CAS No. 709-98-8 A.I. CODE: 028201 CFR No. 180.274	2yr feeding- rat NOEL= 5.0000 mg/kg 100.00 ppm LEL= 20.0000 mg/kg 400.00 ppm ONCO: Undetermined	Increased relative spleen weight in females. No oncogenicity data available.	PADI 1000 OPP RfD= 0.005000 EPA RfD= 0.200000 WHO RfD 0.000000 Type:	Chronic feeding- rat Chronic feeding- dog (Supplementary per 1987 Reg. Std.) 2yr mouse NOEL of 5 mg/kg is co-critical study.	TOX complete 8/04/86. ORD verified 9/02/86. TOX reassess 7/24/87.

LISTING OF EXPOSURE BY RAC FOR: U.S. POPULATION - 48 STATES

FOOD CODE	FOOD NAME	TOLERANCE (PPM) NEW	PENDING	PUBLISHED	EXISTING TOLERANCES TMRC (UG/KG/DAY)	%RfD	NEW, PENDING & PUBLISHED TOLERANCES NEW TMRC (UG/KG/DAY)	NEW %RFD
24001AA	BARLEY			0.2000	0.0115	0.2292		
24003AA	OATS			0.2000	0.0165	0.3303		
24004AA	RICE-ROUGH			2.0000	0.0061	0.1224		
24004AB	RICE-MILLED			2.0000	0.3105	6.2105		
24007AA	WHEAT-ROUGH			0.2000	0.0281	0.5624		
24007GA	WHEAT-GERM			0.2000	0.0002	0.0032		
24007HA	WHEAT-BRAN			0.2000	0.0024	0.0486		
24007WA	WHEAT-FLOUR			0.2000	0.2515	5.0290		
	CROP GROUP TOTALS FOR CEREAL GRAINS:				0.6268	12.5357		
53001BA	BEEF-MEAT BYPRODUCTS			0.1000	0.0018	0.0353		
53001BB	BEEF(ORGAN MEATS)-OTHER			0.1000	0.0006	0.0121		
53001DA	BEEF-DRIED			0.1000	0.0003	0.0051		
53001FA	BEEF(BONELESS)-FAT (BEEF TALLOW)			0.1000	0.0372	0.7442		
53001KA	BEEF(ORGAN MEATS)-KIDNEY			0.1000	0.0000	0.0010		
53001LA	BEEF(ORGAN MEATS)-LIVER			0.1000	0.0021	0.0414		
53001MA	BEEF(BONELESS)-LEAN (W/O REMOVEABLE FAT)			0.1000	0.1162	2.3240		
53002BA	GOAT-MEAT BYPRODUCTS			0.1000	0.0000	0.0000		
53002BB	GOAT(ORGAN MEATS)-OTHER			0.1000	0.0000	0.0000		
53002FA	GOAT(BONELESS)-FAT			0.1000	0.0000	0.0001		
53002KA	GOAT(ORGAN MEATS)-KIDNEY			0.1000	0.0000	0.0000		
53002LA	GOAT(ORGAN MEATS)-LIVER			0.1000	0.0000	0.0000		
53002MA	GOAT(BONELESS)-LEAN (W/O REMOVEABLE FAT)			0.1000	0.0000	0.0004		
53003AA	HORSE			0.1000	0.0000	0.0000		
53005BA	SHEEP-MEAT BYPRODUCTS			0.1000	0.0000	0.0001		
53005BB	SHEEP(ORGAN MEATS)-OTHER			0.1000	0.0000	0.0000		
53005FA	SHEEP(BONELESS)-FAT			0.1000	0.0004	0.0086		
53005KA	SHEEP(ORGAN MEATS)-KIDNEY			0.1000	0.0000	0.0000		
53005LA	SHEEP(ORGAN MEATS)-LIVER			0.1000	0.0000	0.0000		
53005MA	SHEEP(BONELESS)-LEAN (W/O REMOVEABLE FAT			0.1000	0.0012	0.0250		
53006BA	PORK-MEAT BYPRODUCTS			0.1000	0.0025	0.0502		
53006BB	PORK(ORGAN MEATS)-OTHER			0.1000	0.0004	0.0077		
53006FA	PORK(BONELESS)-FAT (INCLUDING LARD)			0.1000	0.0208	0.4164		
53006KA	PORK(ORGAN MEATS)-KIDNEY			0.1000	0.0000	0.0000		
53006LA	PORK(ORGAN MEATS)-LIVER			0.1000	0.0005	0.0096		
53006MA	PORK(BONELESS)-LEAN (W/O REMOVEABLE FAT)			0.1000	0.0391	0.7825		
	CROP GROUP TOTALS FOR RED MEAT:				0.2232	4.4635		

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CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Propanil Caswell #325 CAS No. 709-98-8 A.I. CODE: 028201 CFR No. 180.274	2yr feeding- rat NOEL= 5.0000 mg/kg 100.00 ppm LEL= 20.0000 mg/kg 400.00 ppm ONCO: Undetermined	Increased relative spleen weight in females. No oncogenicity data available.	PADI 1000 OPP RfD= 0.005000 EPA RfD= 0.200000 WHO RfD 0.000000 Type:	Chronic feeding- rat Chronic feeding- dog (Supplementary per 1987 Reg. Std.) 2yr mouse NOEL of 5 mg/kg is co-critical study.	TOX complete 8/04/86. ORD verified 9/02/86. TOX reassess 7/24/87.

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FOOD CODE	FOOD NAME	TOLERANCE (PPM) NEW	PENDING	PUBLISHED	EXISTING TOLERANCES TMRC (UG/KG/DAY)	%RfD	NEW, PENDING & PUBLISHED TOLERANCES NEW TMRC (UG/KG/DAY)	NEW %RFD
55008BA	TURKEY-BYPRODUCTS			0.1000	0.0000	0.0005		
55008LA	TURKEY-GIBLETS (LIVER)			0.1000	0.0000	0.0001		
55008MA	TURKEY-FLESH(W/O SKIN, W/O BONES)			0.1000	0.0008	0.0159		
55008MB	TURKEY-FLESH(+SKIN,W/O BONES)			0.1000	0.0048	0.0963		
55008MC	TURKEY-UNSPECIFIED			0.1000	0.0000	0.0002		
55013BA	POULTRY,OTHER-BYPRODUCTS			0.1000	0.0000	0.0000		
55013LA	POULTRY,OTHER-GIBLETS(LIVER)			0.1000	0.0000	0.0005		
55013MA	POULTRY,OTHER-FLESH (+SKIN,W/O BONES)			0.1000	0.0005	0.0108		
55015BA	CHICKEN-BYPRODUCTS			0.1000	0.0000	0.0000		
55015LA	CHICKEN-GIBLETS(LIVER)			0.1000	0.0005	0.0101		
55015MA	CHICKEN-FLESH(W/O SKIN,W/O BONES)			0.1000	0.0060	0.1203		
55015MB	CHICKEN-FLESH(+SKIN,W/O BONES)			0.1000	0.0379	0.7586		
	CROP GROUP TOTALS FOR POULTRY:				0.0507	1.0133		
50000DB	MILK-NON-FAT SOLIDS			0.0500	0.3568	7.1363		
50000FA	MILK-FAT SOLIDS			0.0500	0.1697	3.3948		
50000SA	MILK SUGAR (LACTOSE)			0.0500	0.0019	0.0374		
55014AA	EGGS-WHOLE			0.0500	0.0282	0.5645		
55014AB	EGGS-WHITE ONLY			0.0500	0.0005	0.0092		
55014AC	EGGS-YOLK ONLY			0.0500	0.0003	0.0066		
	CROP GROUP TOTALS FOR DAIRY PRODUCTS:				0.5574	11.1489		

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LISTING OF EXPOSURE BY RAC FOR: NON-NURSING INFANTS (<1 YEAR OLD)

FOOD CODE	FOOD NAME	TOLERANCE (PPM) NEW	PENDING	PUBLISHED	EXISTING TOLERANCES TMRC (UG/KG/DAY)	%RfD	NEW, PENDING & PUBLISHED TOLERANCES NEW TMRC (UG/KG/DAY)	NEW %RFD
24001AA	BARLEY			0.2000	0.0279	0.5581		
24003AA	OATS			0.2000	0.1498	2.9963		
24004AA	RICE-ROUGH			2.0000	0.0000	0.0000		
24004AB	RICE-MILLED			2.0000	2.6441	52.8828		
24007AA	WHEAT-ROUGH			0.2000	0.0245	0.4892		
24007GA	WHEAT-GERM			0.2000	0.0001	0.0017		
24007HA	WHEAT-BRAN			0.2000	0.0002	0.0041		
24007WA	WHEAT-FLOUR			0.2000	0.1816	3.6322		
	CROP GROUP TOTALS FOR CEREAL GRAINS:				3.0282	60.5645		
53001BA	BEEF-MEAT BYPRODUCTS			0.1000	0.0011	0.0220		
53001BB	BEEF(ORGAN MEATS)-OTHER			0.1000	0.0003	0.0062		
53001DA	BEEF-DRIED			0.1000	0.0000	0.0000		
53001FA	BEEF(BONELESS)-FAT (BEEF TALLOW)			0.1000	0.0191	0.3826		
53001KA	BEEF(ORGAN MEATS)-KIDNEY			0.1000	0.0000	0.0000		
53001LA	BEEF(ORGAN MEATS)-LIVER			0.1000	0.0031	0.0625		
53001MA	BEEF(BONELESS)-LEAN (W/O REMOVEABLE FAT)			0.1000	0.1228	2.4557		
53002BA	GOAT-MEAT BYPRODUCTS			0.1000	0.0000	0.0000		
53002BB	GOAT(ORGAN MEATS)-OTHER			0.1000	0.0000	0.0000		
53002FA	GOAT(BONELESS)-FAT			0.1000	0.0000	0.0000		
53002KA	GOAT(ORGAN MEATS)-KIDNEY			0.1000	0.0000	0.0000		
53002LA	GOAT(ORGAN MEATS)-LIVER			0.1000	0.0000	0.0000		
53002MA	GOAT(BONELESS)-LEAN (W/O REMOVEABLE FAT)			0.1000	0.0000	0.0000		
53003AA	HORSE			0.1000	0.0000	0.0000		
53005BA	SHEEP-MEAT BYPRODUCTS			0.1000	0.0000	0.0000		
53005BB	SHEEP(ORGAN MEATS)-OTHER			0.1000	0.0000	0.0000		
53005FA	SHEEP(BONELESS)-FAT			0.1000	0.0007	0.0145		
53005KA	SHEEP(ORGAN MEATS)-KIDNEY			0.1000	0.0000	0.0000		
53005LA	SHEEP(ORGAN MEATS)-LIVER			0.1000	0.0000	0.0000		
53005MA	SHEEP(BONELESS)-LEAN (W/O REMOVEABLE FAT			0.1000	0.0063	0.1261		
53006BA	PORK-MEAT BYPRODUCTS			0.1000	0.0006	0.0115		
53006BB	PORK(ORGAN MEATS)-OTHER			0.1000	0.0002	0.0031		
53006FA	PORK(BONELESS)-FAT (INCLUDING LARD)			0.1000	0.0147	0.2930		
53006KA	PORK(ORGAN MEATS)-KIDNEY			0.1000	0.0000	0.0000		
53006LA	PORK(ORGAN MEATS)-LIVER			0.1000	0.0015	0.0301		
53006MA	PORK(BONELESS)-LEAN (W/O REMOVEABLE FAT)			0.1000	0.0442	0.8835		
	CROP GROUP TOTALS FOR RED MEAT:				0.2145	4.2908		

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55008BA	TURKEY-BYPRODUCTS			0.1000	0.0000	0.0000		
55008LA	TURKEY-GIBLETS (LIVER)			0.1000	0.0000	0.0000		
55008MA	TURKEY-FLESH(W/O SKIN, W/O BONES)			0.1000	0.0120	0.2398		
55008MB	TURKEY-FLESH(+SKIN,W/O BONES)			0.1000	0.0081	0.1627		
55008MC	TURKEY-UNSPECIFIED			0.1000	0.0000	0.0000		
55013BA	POULTRY,OTHER-BYPRODUCTS			0.1000	0.0000	0.0000		
55013LA	POULTRY,OTHER-GIBLETS(LIVER)			0.1000	0.0000	0.0000		
55013MA	POULTRY,OTHER-FLESH (+SKIN,W/O BONES)			0.1000	0.0000	0.0000		
55015BA	CHICKEN-BYPRODUCTS			0.1000	0.0000	0.0000		
55015LA	CHICKEN-GIBLETS(LIVER)			0.1000	0.0016	0.0320		
55015MA	CHICKEN-FLESH(W/O SKIN,W/O BONES)			0.1000	0.0328	0.6567		
55015MB	CHICKEN-FLESH(+SKIN,W/O BONES)			0.1000	0.0508	1.0169		
	CROP GROUP TOTALS FOR POULTRY:				0.1054	2.1081		
50000DB	MILK-NON-FAT SOLIDS			0.0500	2.5597	51.1935		
50000FA	MILK-FAT SOLIDS			0.0500	0.5628	11.2556		
50000SA	MILK SUGAR (LACTOSE)			0.0500	0.1515	3.0305		
55014AA	EGGS-WHOLE			0.0500	0.0236	0.4714		
55014AB	EGGS-WHITE ONLY			0.0500	0.0002	0.0041		
55014AC	EGGS-YOLK ONLY			0.0500	0.0064	0.1289		
	CROP GROUP TOTALS FOR DAIRY PRODUCTS:				3.3042	66.0840		

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PROPANIL CHEMISTRY REVIEW

Page_____ is not included in this copy.

Pages 13 through 18 are not included.

The material not included contains the following type of information:

____ Identity of product inert ingredients.

____ Identity of product impurities.

____ Description of the product manufacturing process.

____ Description of quality control procedures.

____ Identity of the source of product ingredients.

____ Sales or other commercial/financial information.

____ A draft product label.

____ The product confidential statement of formula.

____ Information about a pending registration action.

____ FIFRA registration data.

____ The document is a duplicate of page(s) _____.

____ The document is not responsive to the request.

✓ OTHER: COMMENTS ON A DRAFT DOCUMENT

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.
