Dated: September 29, 1998.

Gordan Schisler,

Acting Designated Federal Officer, NACEPT Title VI Implementation Advisory Committee.

[FR Doc. 98–26792 Filed 10–5–98; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[OPP–30434A; FRL–6026–2]

Kemira Agro Oy; Approval of a Pesticide Product Registration

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: This notice announces Agency approval of an application to register the pesticide product Primastop Biofungicide Powder, containing a new active ingredient not included in any previously registered product pursuant to the provisions of section 3(c)(5) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended.

FOR FURTHER INFORMATION CONTACT: By mail: Susanne Cerrelli, Regulatory Action Leader, Biopesticides and Pollution Prevention Division (7511C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location, telephone number, and e-mail address: Rm. 902 W48, Crystal Mall #2, 1921 Jefferson Davis Hwy., Arlington, VA, 22202, (703) 308–8077, e-mail: cerrelli.susanne@epamail.epa.gov.

SUPPLEMENTARY INFORMATION:

Electronic Availability: Electronic copies of this document and the Fact Sheet are available from the EPA home page at the **Federal Register**-Environmental Documents entry for this document under ''Laws and Regulations'' (http://www.epa.gov/fedrgstr/).

EPA issued a notice, published in the **Federal Register** of May 23, 1997 (62 FR 28478)(FRL–5714–9), which announced that Kemira Agro Oy, had submitted an application to register the pesticide product Primastop Biofungicide (EPA File Symbol 64137–I), containing the active ingredient *Gliocladium catenulatum* strain J1446, an active ingredient not included in any previously registered product. The current address for Kemira Agro Oy is Porkkalankatu 3, P.O. Box 330, 00101 Helsinki, Finland. The current address of their U.S. agent is c/o E. Butts International, Inc., P.O. Box 764, Fairfield CT 06430.

This application was approved on July 2, 1998, as Primastop Biofungicide Powder, for greenhouse and indoor use only (EPA Registration Number 64137–8).

Primastop contains living *Gliocladium catenulatum* strain J1446 as the active ingredient a naturally-occurring saprophytic fungus, which is widespread in the environment.

The Agency has considered all required data on risks associated with the proposed use of *Gliocladium catenulatum* strain J1446, and information on social, economic, and environmental benefits to be derived from use. Specifically, the Agency has considered the nature of the chemical and its pattern of use, application methods and rates, and level and extent of potential exposure. Based on these reviews, the Agency was able to make basic health safety determinations which show that use of *Gliocladium catenulatum* strain J1446 when used in accordance with widespread and commonly recognized practice, will not generally cause unreasonable adverse effects to the environment.

More detailed information on this registration is contained in the EPA Pesticide Fact Sheet on *Gliocladium catenulatum* strain J1446.

A copy of the fact sheet, which provides a summary description of the pesticides, use patterns and formulations, science findings, and the Agency's regulatory position and rationale, may be obtained from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161.

In accordance with section 3(c)(2) of FIFRA, a copy of the approved label, the list of data references, the data and other scientific information used to support registration, except for material specifically protected by section 10 of FIFRA, are available for public inspection in the Public Information and Records Integrity Branch, Information Resources and Services Division (7502C), Office of Pesticide Programs, Environmental Protection Agency, Rm. 119, CM #2, Arlington, VA 22202 (703–305–5805). Requests for data must be made in accordance with the provisions of the Freedom of Information Act and must be addressed to the Freedom of Information Office (A-101), 401 M St., SW., Washington, DC 20460. Such requests should: (1) Identify the product name and registration number and (2) specify the data or information desired.

Authority: 7 U.S.C. 136.

List of Subjects

Environmental protection, Pesticides and pests, Product registration.

Dated: September 28, 1998.

Janet L. Andersen,

Director, Biopesticides and Pollution Prevention Division, Office of Pesticide Programs.

[FR Doc. 98–26784 Filed 10–5–98; 8:45 am]

BILLING CODE 6560–50–F

ENVIRONMENTAL PROTECTION AGENCY

[PF–837; FRL–6033–8]

Notice of Filing of Pesticide Petitions

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: This notice announces the initial filing of pesticide petitions proposing the establishment of regulations for residues of certain pesticide chemicals in or on various food commodities.

DATES: Comments, identified by the docket control number PF–837, must be received on or before November 5, 1998.

ADDRESSES: By mail submit written comments to: Public Information and Records Integrity Branch, Information Resources and Services Division (7502C), Office of Pesticides Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. In person bring comments to: Rm. 119, CM #2, 1921 Jefferson Davis Highway, Arlington, VA.

Comments and data may also be submitted electronically to: opp-docket@epamail.epa.gov. Follow the instructions under ''SUPPLEMENTARY INFORMATION.'' No confidential business information should be submitted through e-mail.

Information submitted as a comment concerning this document may be claimed confidential by marking any part or all of that information as ''Confidential Business Information'' (CBI). CBI should not be submitted through e-mail. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. A copy of the comment that does not contain CBI must be submitted for inclusion in the public record. Information not marked confidential may be disclosed publicly by EPA without prior notice. All written comments will be available for public inspection in Rm. 1132 at the address given above, from 8:30 a.m. to 4 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: The product manager listed in the table below:

Product Manager	Office location/telephone number	Address
Edith Minor	Rm. 229, CM #2, 703–305–7390, e-mail:minor.edith@epamail.epa.gov.	1921 Jefferson Davis Hwy, Arlington, VA
Joanne Miller	Rm. 229, PM #23, 703–306–6224, e-mail: miller.joanne@epamail.epa.gov.	
Joseph Tavano	Rm. 214, 703–305–6411, e-mail:tavano.joseph@epamail.epa.gov.	Do.

SUPPLEMENTARY INFORMATION: EPA has received pesticide petitions as follows proposing the establishment and/or amendment of regulations for residues of certain pesticide chemicals in or on various food commodities under section 408 of the Federal Food, Drug, and Comestic Act (FFDCA), 21 U.S.C. 346a. EPA has determined that these petitions contain data or information regarding the elements set forth in section 408(d)(2); however, EPA has not fully evaluated the sufficiency of the submitted data at this time or whether the data supports granting of the petition. Additional data may be needed before EPA rules on the petition.

The official record for this notice of filing, as well as the public version, has been established for this notice of filing under docket control number [PF–837] (including comments and data submitted electronically as described below). A public version of this record, including printed, paper versions of electronic comments, which does not include any information claimed as CBI, is available for inspection from 8:30 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The official record is located at the address in ''ADDRESSES'' at the beginning of this document.

Electronic comments can be sent directly to EPA at:

opp-docket@epamail.epa.gov

Electronic comments must be submitted as an ASCII file avoiding the use of special characters and any form of encryption. Comments and data will also be accepted on disks in Wordperfect 5.1 file format or ASCII file format. All comments and data in electronic form must be identified by the docket number (insert docket number) and appropriate petition number. Electronic comments on notice may be filed online at many Federal Depository Libraries.

List of Subjects

Environmental protection, Agricultural commodities, Food additives, Feed additives, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: September 29, 1998.

James Jones,

Director, Registration Division, Office of Pesticide Programs.

Summaries of Petitions

Petitioner summaries of the pesticide petitions are printed below as required by section 408(d)(3) of the FFDCA. The summaries of the petitions were prepared by the petitioners and represent the views of the petitioners. EPA is publishing the petition summaries verbatim without editing them in any way. The petition summary announces the availability of a description of the analytical methods available to EPA for the detection and measurement of the pesticide chemical residues or an explanation of why no such method is needed.

1. Griffin Corporation

PP 7F4837

EPA has received a pesticide petition (PP 7F4837) from Griffin Corporation, P.O. Box 1847, Valdosta, GA 31603-1847, proposing pursuant to section 408(d) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 346a(d), to amend 40 CFR part 180 to establish an exemption from the requirement of a tolerance for propazine 2-chloro-4,6-bis(isopropylamine)-s-triazine and its two chloro metabolites, 2-amino-4-chloro, 6-isopropylamino-s-triazine (G-30033) and 2,4-diamino-6-chloro-s-triazine (G-28273) in or on the raw agricultural commodities sorghum, stover, forage, and grain at 0.25 parts per million (ppm). EPA has determined that the petition contains data or information regarding the elements set forth in section 408(d)(2) of the FFDCA; however, EPA has not fully evaluated the sufficiency of the submitted data at this time or whether the data supports granting of the petition. Additional data may be needed before EPA rules on the petition.

A. Residue Chemistry

1. *Plant metabolism*. In sorghum, metabolism occurs by the three following reactions: N-dealkylation of the side-chains, hydrolytic dehalogenation or nucleophilic displacement of the 2-chloro group with glutathione (GSH). The dehalogenation and formation of GSH conjugates are the two predominant pathways and only small amounts of the chloro residues were found in forage and stover. No chloro residues were detected in sorghum grain in two propazine metabolism studies that were conducted. Griffin believes the metabolism is well characterized in plants and animals and the pathways of metabolism are very similar to those defined for other triazines. The metabolism profile supports the use of an analytical enforcement method that accounts for parent propazine and its two chloro metabolites, 2-amino-chloro-6-isopropyl-amino-s-triazine (G-30033) and 2-chloro-4,6-di-amino-s-triazine (G-28273) in the raw agricultural commodity (RAC's) of grain sorghum and further supports the current tolerance of 0.25 ppm to include the two chloro metabolites.

2. *Analytical method*. A practical analytical method has been submitted. as a part of the sorghum residue study. The method involves extraction, evaporation solid phase clean-up column and quantitation by high performance liquid chromotography (HPLC) equipped with a ultraviolet ray (UV) detector. One aliquot is used for assaying for propazine and G-30033 and another aliquot is used for quantitating G-27283. The limit of quanitation (LOQ) for propazine and each of its chloro metabolites in each raw agricultural commodities (RAC) and each chloro residue is 0.05 ppm.

3. *Magnitude of residues*. A total of 13 sorghum field residue trails were conducted in the major sorghum growing areas of the United States. No quantifiable residues of parent or the two chloro metabolites were detected in the RAC's of the 13 field residue studies when treated at the 1x rate. Only four samples for sorghum forage contained residues of G-28273 which were quantifiable and residues ranged from 0.05 ppm to 0.087 ppm. The treatment rate for these studies exceeded the maximum proposed use rate and the extrapolated range of residues for the four samples was 0.024 to 0.069 ppm.

The RAC's of sorghum are only used as feed for cattle and poultry. Only the grain is fed to chickens and there were no chloro residues present in grain; therefore no chloro residues would be expected in eggs and poultry products. The level of chloro residues in forage

and fodder are sufficiently low in the metabolism and residue studies to demonstrate that any potential transfer of propazine and its chloro metabolites to milk and meat is not expected.

For rotational crops, no chloro residues were present in root and grain crops when planted more than 129 days after treatment. Chloro residues were present in leafy vegetables grown in soils with pH values above 7 and under inclimate growing conditions. One field sample of wheat forage contained low levels of parent propazine but this sample was taken at an interval shorter than will be proposed on the label for plant back and, in addition, the pH of the soil was above 7.

An amendment of the current tolerance of 0.25 ppm to include parent propazine and its two chloro metabolites, G-30033 and G-28273, is proposed for each of the RAC's of grain sorghum. The metabolism and field residue results show that chloro residues of propazine should not exceed 0.25 ppm in any of the RAC's. Potential transfer of propazine and its two chloro metabolites to milk and meat is not expected. Therefore, tolerances in milk, meat, poultry and eggs are not required. The data show that root and grain crops can be rotated with sorghum treated with propazine, but leafy vegetable crops should not be rotated with sorghum in soils with pH values above 7.

B. Toxicological Profile

1. *Acute toxicity*. A complete battery of acute toxicity studies for propazine technical was completed. The acute oral toxicity study resulted in a LD_{50} of greater than 5,050 milligram kilogram (mg/kg) for both sexes. The acute dermal toxicity in rabbits resulted in an LD_{50} in either sex of greater than 5,050 mg/kg. The acute inhalation study in rats resulted in an LC_{50} of greater than 1.22 mg/l. Propazine was non-irritating to the skin of rabbits in the primary dermal irritation study. In the primary eye irritation study in rabbits, no irritation was noted. The dermal sensitization study in guinea pigs indicated that propazine is not a sensitizer. Based on these results, propazine technical is placed in toxicity Category III.

2. *Reproductive and developmental toxicity*. The potential maternal and developmental toxicity of propazine were evaluated in rabbits. Propazine technical was suspended in corn oil and administered orally by gavage to three groups of 20 artificially inseminated New Zealand White rabbits as a single daily dose from gestation days 6-18. In the range-finding study, rabbits were dosed at levels of 0, 10, 50, 100, 200, and 400 milligram kilogram day (mg/kg/day). Maternal toxicity was exhibited by decreased defecation, body weight losses and decreased food consumption during the treatment period at 50, 100, 200 and 400 mg/kg/day. Abortions also occurred at levels of 200 and 400 mg/kg/day. Dose levels of 0, 2, 10, and 50 mg/kg/day were selected based on the results of this study. In the definitive study, no test article related deaths occurred at any dose level tested. The only clinical sign observed was decreased defecation in the 50 mg/kg/day group. Inhibition of body weight gain occurred during the first 6 days of dosing and inhibition of food consumption occurred throughout the treatment period in the 50 mg/kg/day group. No other treatment related findings were noted in the dams at any dose level. Intrauterine parameters were unaffected by treatment. There were no treatment related effects on fetal malformations or developmental variations.

The data from the developmental toxicity studies on propazine show no evidence of a potential for developmental effects (malformations or variations) at doses that are not maternally toxic. The no observed adverse effect level (NOAEL) for maternal toxicity in rabbits was 10 mg/kg/day and the NOAEL for developmental toxicity was 50 mg/kg/day.

3. *Subchronic toxicity.*. No test article related deaths occurred at any dose level. Very minimal dermal irritation was noted in the 100 and 1,000 mg/kg/day females. Body weight gain was slightly inhibited in the high dose group during weeks 0-1 (both sexes) and 2-3 (males only). There were no treatment related effects on the clinical observations, food consumption, hematology and serum chemistry parameters or organ weights were observed at any dose level. Macroscopic and microscopic examinations revealed no treatment related lesions at any dose level.

Based on the 21 day dermal study in rats, the NOAEL for systemic toxicity was 100 mg/kg/day due to reduced body weight gain at 1,000 mg/kg/day.

4. *Chronic toxicity*. Griffin conclude that the body weight gain and survival data clearly indicate that the high dose female rats exceeded the maximum tolerance dose (MTD), and therefore the high dose female group should be excluded from any risk assessment or weight-of-evidence arguments concerning this study. Additionally, the incidence of mammary gland tumors in all doses in this study were within the range of current laboratory historical control incidences and those reported by the breeder, Charles River. No adverse treatment related effects were observed at levels below the MTD.

5. *Animal metabolism*. The absorption, distribution, excretion, and metabolism of propazine (ring-UL-^{14}C propazine) was investigated in Sprague-Dawley CD rats. One group of rats was administered a single oral dose at 1.0 mg/kg (low dose), one group was administered a single oral dose at 100 mg/kg (high dose), and a third group was administered fourteen consecutive oral daily doses of non-radioactive propazine at 1.0 mg/kg, followed by a single oral dose of ^{14}C-propazine at 1.0 mg/kg (consecutive dose group). A fourth group of animals (3 rats/sex) was administered a single oral dose of the vehicle only (corn oil), and served as controls. Since propazine is not soluble in water, it was not possible to include an intravenous dose group.

Excretion patterns were very similar in all dose groups. Nearly all of the radioactivity administered was recovered in the excreta within 24 to 48 hours after dosing. The majority of the administered radioactivity was excreted in the urine (66.2 - 70.5%), and this finding shows that the majority of the administered dose was bioavailable and rapidly absorbed from the gastrointestinal tract. High performance liquid chromotography (HPLC) analysis of the urine indicated a similar profile among all dose groups and both sexes. The excretion of radioactivity in the feces was significantly lower than in the urine (range: 19.9 -28.6%) in all dose groups and both sexes. Analysis of this radioactivity demonstrated a relatively consistent pattern among the various dose groups with females containing a quantitatively higher level of the parent compound. The recovery of expired radioactivity was shown in a pilot study to be negligible (<0.1%), indicating little or no $^{14}CO_2$ production during the metabolism of propazine.

7 days post-treatment all animals were sacrificed and the total radioactive residue was quantified in bone, brain, fat (visceral), gastrointestinal tract (including contents), heart, kidney, liver, lung, muscle (thigh), ovary, plasma, red blood cells (RBC), skin, spleen, testis, thyroid, uterus, and residual carcass. Highest concentrations were found in the RBCs of all dose groups (0.472 - 0.577 ppm parent equivalents at 1.0 mg/kg and 44.649 - 55.287 ppm at 100 mg/kg). Residue concentration in the remaining tissues ranged from 0.007 to 0.468 ppm at the low and consecutive dose groups, and from 0.859 to 13.246 ppm at the high dose. Mean body burdens for the low,

high, and consecutive dose groups accounted for 10.3, 5.9 and 7.1% of the dose, respectively. Material balances were quantitative and accounted for 102.5, 101.1 and 96.3% of the dose, respectively.

Metabolite characterization of excreta indicated a biotransformation pathway consistent with historical metabolism of alkylated s-triazines. Confirmed metabolite identification showed that propazine was metabolized via N-dealkylation mechanisms and excreted in urine primarily as the G-27283 metabolite (approximately 27% of the total dose). Unmetabolized parent propazine was the predominant identified compound in the feces (13.8% in the high dose male group). The fact that a greater percentage of administered ^{14}C-propazine was found in the feces of the high dose group probably indicated some degree of saturation of the absorption mechanism.

Propazine technical is not metabolized to breakdown products which accumulate in sufficient quantities that can be reasonably expected to present any chronic dietary risk.

6. *Metabolite toxicology*. The hydroxy metabolite of atrazine, an analog of propazine has been shown not to exhibit carcinogenic effects.

7. *Endocrine disruption*. There is no evidence that propazine has endocrine-modulation characteristics as demonstrated by the lack of endocrine effects in developmental, subchronic and chronic studies.

C. Aggregate Exposure

1. *Dietary exposure—Food*. A dietary risk exposure study dietary risk evaluation system (DRES) for Griffin for the purpose of estimating dietary exposure to propazine residues. Grain sorghum is the only proposed food or food use of propazine. Therefore, there exists no potential for human consumption of crops treated with propazine. Sorghum (grain, forage and stover) is, however, fed to livestock. Grain is the only sorghum commodity fed to poultry. There are no chloro residues, the residues of toxicological concern, in the grain. In turn, there is no potential for poultry to be exposed to propazine or related residues. Beef and dairy cattle are fed all sorghum commodities: grain, forage, stover, and aspirated grain fractions. Therefore, in evaluating potential human dietary exposure to propazine, the potential exposure via secondary residues in meat and milk must be considered. The total chloro residues for a goat dosed at 9.9 ppm in a metabolism study were low. Specifically, the highest total residue was observed in milk (0.162 ppm), while the lowest residue of <0.002 ppm was observed in kidney.

These tissue to feed ratios can then be combined with the worst-case diets derived from a sorghum only ration which includes propazine residues at the tolerance level of 0.25 ppm. (It should be noted that this worst-case diet is not a ration that would be fed to cattle). The results of this indicate that even under theoretically worst-case conditions all meat and milk residues are extremely low (all less than 0.01 ppm; the LOQ in plant matrices is 0.05 ppm). In turn, there is no potential for dietary exposure to propazine via secondary residues in meat and milk. Therefore, tolerances for meat and milk are not required for propazine.

2. *Drinking water*. Griffin conclude that environmental fate and behavior studies, including aerobic soil metabolism, field lysimeter, and long term soil dissipation, indicate little potential for propazine to reach surface or groundwater from its proposed use on grain sorghum. Griffin concludes that there is little potential for dietary exposure to propazine residues in water exists.

3. *Non-dietary exposure*. There are no residential uses for propazine in the U.S. therefore, there is no potential for residential exposure.

4. *Non-occupational*. A registration application is pending for use of propazine in greenhouses on certain ornamental plants. The container sizes in which the product is to be distributed and channel of distribution make it unlikely that this use would result in any non-occupational exposure.

D. Cumulative Effects

Because of the benefits of propazine, most of the propazine use on sorghum will be substituted for other triazines and since the proposed use rate is lower than the other triazines the cumulative will not increase and could possibly be reduced as a result of registering propazine for use on grain sorghum.

E. Safety Determination

The reference dose (RfD) is based on the rat chronic study. Using the NOAEL of 5 mg/kg/day in this study and an uncertainty factor (UF) of 300, an RfD of 0.02 mg/kg/day was established as the chronic dietary endpoint.

1. *U.S. population—General U.S. population*. In the DRES analysis referenced above, it was determined that there is no potential exposure to propazine via dietary, water, or non-occupational routes.

2. *Infants and children*. In assessing the potential for additional sensitivity of infants and children to residues of propazine, the available developmental toxicity study and the potential for endocrine modulation by propazine were considered. The data from the developmental toxicity studies on propazine show no evidence of a potential for developmental effects (malformations or variations) at doses that are not maternally toxic. The developmental no observed adverse effect levels (NOAELs) and LOAELs were at higher dose levels (less toxic), indicating no increase in susceptibility of developing organisms. No evidence of endocrine effects were noted in any study. It is therefore concluded that propazine poses no additional risk for infants and children and no additional uncertainty factor is warranted.

Federal food, drug and cosmetic act (FFDCA) section 408 provides that an additional safety factor for infants and children may be applied in the case of threshold effects. Since, as discussed in the previous section, the toxicology studies do not indicate that young animals are any more susceptible than adult animals and the fact that the current RfD calculated from the NOAEL from the rat chronic study already incorporates a 300x uncertainty factor, Griffin believes that an adequate margin of safety is therefore provided by the RfD established by EPA.

There is no evidence that propazine has endocrine-modulation characteristics as demonstrated by the lack of endocrine effects in developmental, subchronic, and chronic studies.

There is no potential exposure to propazine via dietary, water, or non-occupational routes based on the proposed use on grain sorghum. No additional uncertainty factor for infants and children is warranted based on the completeness and reliability of the database, the demonstrated lack of increased risk to developing organisms, and the lack of endocrine-modulating effects.

F. International Tolerances

There are no Codex Alimentarius Commission (CODEX) maximum residue levels (MRLs) established for residues of propazine and its chloro metabolites in or on raw agricultural commodities.

2. K-1 Chemical U.S.A., Inc.

PP 7F4821

EPA has received an amendment to pesticide petition (PP 7F4821) from K-I Chemical U.S.A., Inc., proposing pursuant to section 408(d) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C.

346a(d), to amend 40 CFR part 180 by establishing a tolerance for residues of herbicide and harvest aid fluthiacet-methyl in or on the raw agricultural commodities cottonseed at 0.02 parts per million (ppm) and cotton, gin by-products at 0.5 ppm. EPA has determined that the petition contains data or information regarding the elements set forth in section 408(d)(2) of the FFDCA; however, EPA has not fully evaluated the sufficiency of the submitted data at this time or whether the data supports granting of the petition. Additional data may be needed before EPA rules on the petition.

On April 14, 1997, EPA announced receipt of a pesticide petition (PP 7F4821) from K-1 Chemical U.S.A., Inc., 11 Martine Avenue, 9th Floor, White Plains, NY 10606, proposing pursuant to section 408(d) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 346a(d), to amend 40 CFR part 180 by establishing a tolerance for residues of the herbicide fluthiacet-methyl: Acetic acid, [[2-chloro-4-fluoro-5-[(tetrahydro-3-oxo-1H,3H-[1,3,4]thiadiazolo[3,4-a] pyridazin-1-ylidene)amino]phenyl]thio]-methyl ester in or on the raw agricultural commodities field corn grain and sweet corn grain (K + CWHIR) at 0.02 ppm and corn forage and fodder at 0.05 ppm.

On September 4, 1997 K-I Chemical, U.S.A., Inc., amended PP 7F4821 to include a proposed tolerance for popcorn grain at 0.02 ppm.

On August 14, 1998 K-I Chemical U.S.A., Inc. amended PP 7F4821 to include proposed tolerances for cottonseed at 0.02 ppm and for cotton, gin by-products at 0.5 ppm. EPA has determined that the amended petition contains data or information regarding the elements set forth in section 408(d)(2) of the FFDCA; however, EPA has not fully evaluated the sufficiency of the submitted data at this time or whether the data supports granting of the petition. Additional data may be needed before EPA rules on the petition.

A. Residue Chemistry

1. *Plant metabolism*. The nature of the residues in corn is adequately understood following application of fluthiacet-methyl. Residue levels and the metabolic pathway are consistent with those in soybeans. Parent fluthiacet-methyl was the primary component of the residue seen in corn grain, forage, fodder and silage. Results of these studies have been submitted to the EPA.

2. *Analytical method*. K-I Chemical has submitted practical analytical methods (AG-603B and AG-624) for detecting and measuring the level of fluthiacet-methyl in or on corn, corn commodities, cotton, cotton commodities, and in animal tissues with a limit of detection that allows monitoring residues at or above the levels set for the proposed tolerance. The limit of quantitation of the crop method is 0.01 ppm in corn, corn commodities, cotton, and cotton commodities, 0.05 ppm in animal tissues and 0.01 ppm in milk. The crop method involves extraction, filtration, and solid phase clean up. Residue levels of fluthiacet-methyl are determined by gas chromatographic analysis utilizing a nitrogen phosphorus detector and a fused-silica column. The animal tissue method involves extraction, filtration, and partition. Determination of residue levels in animal tissues is by high performance liquid chromotography (HPLC) with ultraviolet ray (UV) detection via column switching using C1 and C18 columns. The analyte of interest in animal tissues and milk is the major animal metabolite CGA-300403. Residues of fluthiacet-methyl in corn are determined by gas chromatography.

3. *Magnitude of residues*. The residue of concern in corn is fluthiacet-methyl per se. Twenty-one field residue studies were conducted with corn grown in nineteen States. Fifteen of the studies were on field corn and six on sweet corn. No studies were conducted with popcorn, however K-I believes that the data on field and sweet corn support a tolerance in popcorn as well. Because the proposed use rate and pattern is the same for popcorn, it is reasonable to conclude that residues in popcorn grain will not exceed the proposed tolerance of 0.02 ppm. Residues in field and sweet corn forage after the day of application were less than the proposed tolerance of 0.05 ppm. Popcorn forage is not a fed commodity. Nonetheless, residues in popcorn forage or fodder are not expected to exceed the proposed tolerance of 0.05 ppm. The proposed tolerances of 0.02 ppm in field corn, sweet corn, and popcorn grain and 0.05 ppm in field corn and sweet corn forage and fodder are adequate to cover residues likely to occur when Action herbicide is applied to corn as directed.

This position is based on 180.34(d) of the CFR which states that ''If the pesticide chemical is not absorbed into the living plant or animal when applied (is not systemic), it may be possible to make a reliable estimate of the residues to be expected on each commodity in a group of related commodities on the basis of less data than would be required for each commodity in the group, considered separately''. And, 180.34(e) states that ''each of the following groups of crops lists raw agricultural commodities that are considered to be related for the purpose of paragraph (d) of this section; field corn, popcorn, sweet corn (each in grain form)''.

Residues of fluthiacet-methyl in treated field and sweet corn grain and sweet corn ears were less than the method limit of quanitation (LOQ) (<0.01 ppm). Because the proposed use rate and pattern is the same for popcorn, it is reasonable to conclude that residues in popcorn grain will not exceed the proposed tolerance of 0.02 ppm. Residues in field, and sweet corn forage -after the day of application were less than the proposed tolerance of 0.05 ppm. Popcorn forage is not a feed commodity. Nonetheless, residues in popcorn forage or fodder are not expected to exceed the proposed tolerance of 0.05 ppm. The proposed tolerances of 0.02 ppm in field corn, sweet corn, and popcorn grain and 0.05 ppm in field corn, sweet corn forage, and fodder are adequate to cover residues likely to occur when fluthiacet-methyl herbicide is applied to corn as directed.

Twelve cotton field residue trials were conducted in which fluthiacet-methyl 4.75% Wettable Powder (WP) was applied as two broadcast foliar sprays, 7 days apart. No residues were detected (<0.01ppm) in undelinted seed, delinted seed, hulls, meal, or refined oil nor was there concentration of residues in processed fractions, even at 3x and 5x rates in 3 day PHI (preharvest interval) samples. Fluthiacet-methyl residues were present in field trash at 0.32 and 0.11ppm at 3 and 8 day PHIs, respectively, and in gin trash at 0.1 0 and .086 ppm at 4 and 7 day PHIs, respectively, in the 1x treatment rate. Results were similar in two additional trials in which the magnitude of residues was compared following application of the 4.75% WP and 10.3% emulsifiable concentrate (EC) formulations of fluthiacet-methyl. Residues from the proposed use of fluthiacet-methyl on cotton will not exceed the proposed tolerances of 0.02 ppm and 0.5 ppm for fluthiacet-methyl residues in/on the raw agricultural commodities cottonseed and cotton, gin by-products.

B. Toxicological Profile

1. *Acute toxicity*—i. A rat acute oral study with an LD_{50} > 50,000 milligram/kilogram (mg/kg).

ii. A rabbit acute dermal study with an LD_{50} > 2,000 mg/kg.

iii. A rat inhalation study with an LC_{50} > 5.05 mg/liter.

iv. A primary eye irritation study in the rabbit showing moderate eye irritation.

v. A primary dermal irritation study in the rabbit showing no skin irritation.

vi. A primary dermal sensitization study in the Guinea pig showing no sensitization.

2. *Acute neurotoxicity study in rats*. Neurotoxic effects were not observed. The no observed adverse effect level (NOAEL) was 2,000 mg/kg.

3. *Genotoxicty*. *In vitro* gene mutation tests: Ames test -negative; Chinese hamster V79 test - negative; rat hepatocyte DNA repair test - negative; *E. Coli* lethal DNA damage test - negative. *In vitro* chromosomal aberration tests: Chinese hamster ovary -positive at cytotoxic doses; Chinese hamster lung - positive at cytotoxic doses; human lymphocytes - positive at cytotoxic doses. *In vivo* chromosome aberration tests: Micronucleus assays in rat liver - negative; mouse bone marrow test - negative.

4. *Reproductive and developmental toxicity*. Teratology study in rats with a maternal and developmental NOAEL equal to or greater than 1,000 milligram/kilogram/day (mg/kg/day). Teratology study in rabbits with a maternal NOAEL greater than or equal to 1,000 mg/kg/day and a fetal NOAEL of 300 mg/kg based on a slight delay in fetal maturation. 2-generation reproduction study in rats with a NOAEL of 36 mg/kg/day, based on liver lesions in parental animals and slightly reduced body weight development in parental animals and pups. The treatment had no effect on reproduction or fertility.

5. *Subchronic toxicity*. 90-day subchronic neurotoxicity study in rats. The NOAEL was 0.5 mg/kg/day based on reduced body/weight/gain (bwt/gain). No clinical or morphological signs of neurotoxicity were detected at any dose level. 28 day dermal toxicity study in rats with a NOAEL equal to or higher than the limit dose of 1,000 mg/kg.

6 week dietary toxicity study in dogs with a NOAEL of 162 milligram/kilogram/day (mg/kg/day) in males and 50 mg/kg/day in females based on decreased body weight gain and modest hematological changes.

90 day subchronic dietary toxicity study in rats with a NOAEL of 6.2 mg/kg/day based on liver changes and hematological effects.

6. *Chronic toxicity*. 24 month combined chronic toxicity/carcinogenicity study in rats with a NOAEL of 2.1 mg/kg/day. Based on reduced bwt development and changes in bone marrow, liver, pancreas and uterus the MTD was exceeded at 130 mg/kg/day. A positive trend of adenomas of the pancreas in male rats treated at 130 mg/kg/day and above may be attributable to the increased survival of the rats treated at high doses. 18 month oncogenicity study in mice with a NOAEL of 0. 14 mg/kg/day. Based on liver changes, the MTD was reached at 1.2 mg/kg/day. The incidence of hepatocellular tumors was increased in males treated at 12 and 37 mg/kg/day.

7. *Animal metabolism*. The results from hen and goat metabolism studies, wherein fluthiacet-methyl was fed at exaggerated rates, showed that the transfer of fluthiacet-methyl residues from feed to tissues, milk and eggs is extremely low. No detectable residues of fluthiacet-methyl (or metabolite CGA-300403) would be expected in meat, milk, poultry, or eggs after feeding the maximum allowable amount of treated corn and soybeans. This conclusion is based on residue data from the corn and soybean metabolism and field residue chemistry studies coupled with the residue transfer from feed to tissues, milk and eggs obtained in the goat and hen metabolism studies.

8. *Endocrine disruption*. Based on the results of short-term, chronic, and reproductive toxicity studies there is no indication that fluthiacet-methyl might interfere with the endocrine system. Considering further the low environmental concentrations and the lack of bioaccumulation, there is no risk of endocrine disruption in humans or wildlife.

C. Aggregate Exposure

Aggregate exposure includes exposure from dietary exposure from food and drinking water; and non-dietary exposure from non-dietary uses of pesticides products containing the active ingredient, fluthiacet-methyl.

1. *Dietary exposure*. Dietary exposure consists of exposures from food and drinking water.

2. *Food*. In this assessment, K-1 Chemical has conservatively assumed that 100% of all soybeans and corn used for human consumption would contain residues of fluthiacet-methyl and all residues would be at the level of the proposed tolerances. The potential dietary exposure to fluthiacet-methyl was calculated on the basis of the proposed tolerance which is based on an limit of quantitation (LOQ) of 0.01 ppm in soybeans and 0.02 ppm in corn (2x LOQ). The anticipated residues in milk, meat and eggs resulting from feeding the maximum allowable amount of soybean and corn commodities to cattle and poultry were calculated, and the resulting quantities were well below the analytical method LOQ. Therefore, tolerances for milk, meat and eggs are not required. Assuming 100% crop treated values, the chronic dietary exposure of the general U.S. population to fluthiacet-methyl would correspond to 2.3% of the Reference dose (RfD).

3. *Drinking water*. Although fluthiacet-methyl has a slight to medium leaching potential; the risk of the parent compound to leach to deeper soil layers is negligible under practical conditions in view of the fast degradation of the product. For example, the soil metabolism half-life was extremely short, ranging from 1.1 days under aerobic conditions to 1.6 days under anaerobic conditions. Even in the event of very heavy rainfalls immediately after application, which could lead to a certain downward movement of the parent compound, parent fluthiacet-methyl continues to be degraded during the transport into deeper soil zones. Considering the low application rate of fluthiacet-methyl, the strong soil binding characteristics of fluthiacet-methyl and its degradates, and the rapid degradation of fluthiacet-methyl in the soil, there is no risk of ground water contamination with fluthiacet-methyl or its metabolites. Thus, aggregate risk of exposure to fluthiacet-methyl does not include drinking water.

4. *Non-dietary exposure*. Fluthiacet-methyl is not registered for any other use and is only proposed for use on agricultural crops. Thus, there is no potential for non-occupational exposure other than consumption of treated commodities containing fluthiacet-methyl residue.

D. Cumulative Effects

A cumulative exposure assessment is not appropriate at this time because there is no information available to indicate that effects of fluthiacet-methyl in mammals would be cumulative with those of another chemical compound.

E. Safety Determination

1. *U.S. population*. Using very conservative exposure assumptions coupled with toxicity data for fluthiacet-methyl, K-1 Chemical calculated that aggregate, chronic exposure to fluthiacet-methyl will utilize no more than 1.42% of the RfD for the U.S. population, 2.47% for nursing infants less than 1 year old, 5.09% for non-nursing infants greater than 1 year, and 3.5% for children ages 1-6 years. Because the actual anticipated residues are well below tolerance levels and the percent crop treated with fluthiacet-methyl is expected to be less than 100% of planted corn, cotton or soybeans, a more realistic estimate is that dietary exposure will be many times less than the conservative estimate previously

noted (the margins of exposure (MOE) will be accordingly higher). Exposures below 100% of the RfD are generally not of concern because the RfD represents the level at or below which daily aggregate dietary exposure over a lifetime will not pose appreciable risks to human health. K-1 Chemical concludes that there is a reasonable certainty that no harm will result to infants and children from chronic aggregate exposure to residues of fluthiacet-methyl.

Also the acute dietary risk to consumers will be far below any significant level; the lowest NOAEL from a short term exposure scenario comes from the teratology study in rabbits with a NOAEL of 300 mg/kg. This NOAEL is 2,000-fold higher than the chronic NOAEL which provides the basis for the RfD (see above). Acute dietary exposure estimates which are based on a combined food survey from 1989 to 1992 predict MOE of at least one million for 99.9% of the general population and for women of child bearing age. MOE of 100 or more are generally considered satisfactory. Therefore, K-1 Chemical concludes that there is a reasonable certainty that no harm will result from acute aggregate exposure to fluthiacet-methyl residues

2. *Infants and children*. In assessing the potential for additional sensitivity of infants and children to residues of fluthiacet-methyl, K-1 Chemical considered data from developmental toxicity studies in the rat and rabbit and a 2-generation reproduction study in the rat. A slight delay in fetal maturation was observed in a teratology study in rabbits at a daily dose of 1,000 mg/kg. In a 2-generation reproduction study fluthiacet-methyl did not affect the reproductive performance of the parental animals or the physiological development of the pups. The NOAEL was 500 ppm for maternal animals and their offspring, which is 50,000 fold higher than the RfD.

F. International Tolerances

No international tolerances have been established under CODEX for fluthiacet-methyl.

3. Rohm and Haas Company

PP 8F5004 and 8F5006

EPA has received pesticide petitions (PP 8F5004 and 8F5006) from Rohm and Haas Company, 100 Independence Mall West., proposing pursuant to section 408(d) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 346a(d), to amend 40 CFR part 180 by establishing a tolerance for residues of methoxyfenozide[benzoic acid, 3-methoxy-2-methyl-,2-(3,5-dimethylbenzoyl)-2-91,1-dimethylethyl) hydrazide in or on the raw agricultural commodity cottonseed at 2.0 parts per million (ppm), cotton gin trash at 25 ppm, pome fruit at 1.25 ppm, meat, kidney, meat by-products and milk of cattle, goats, sheep, and hogs at 0.02 ppm and in fat and liver at 0.1 ppm. The tolerance expression for kidney and liver includes the glucuronide conjugate of methoxyfenozide (RH-1518). EPA has determined that the petition contains data or information regarding the elements set forth in section 408(d)(2) of the FFDCA; however, EPA has not fully evaluated the sufficiency of the submitted data at this time or whether the data supports granting ofthe petition. Additional data may be needed before EPA rules on the petition.

A. Residue Chemistry

1. *Plant metabolism*. The metabolism of methoxyfenozide in plants (apples,cotton, and grapes) is adequately understood for the purposes of these tolerances. The metabolism of methoxyfenozide in all crops was similar and involves cleavage of the methoxyl side chain to the free phenol, RH-117236,or oxidation of the alkyl substituents of the aromatic rings primarily at the benzylic positions. In all crops, parent compound comprised the majority of the total dosage. None of the metabolites were in excess of 10 of the total dosage.

2. *Analytical method*. High performance liquid chromatographic (HPLC) analytical methods using ultraviolet (UV) or mass selective (MS) detection have been validated for cottonseed, cotton gin trash, cottonseed processed fractions, pome fruit, apple processed fractions and meat, kidney, liver, fat and milk. The methods involve extraction by blending with solvents, purification of the extracts by liquid-liquid partitions and final purification of the residues using solid phase extraction column chromatography. The limit of quantitation (LOQ) is 0.01 parts per million (ppm) for cottonseed processed fractions (meal, hulls and oil), 0.025 ppm for cottonseed, 0.05 ppm for gin trash, 0.01 ppm for pome fruit and apple processed fractions (wet pomace and juice), 0.01 ppm for meat, kidney, liver, fat and milk. For residues of the gluronide conjugate metabolite of methoxyfenozide (RH-1518), the limit of quantitation in liver and kidney is 0.02 ppm.

3. *Magnitude of residues*. A total of twelve cotton residue trials were conducted in the U.S. with the 80WP formulation of INTREPID at a maximum seasonal rate of 2.0 lb. a.i./A (i.e., 5 applications at 0.4 lb. a.i./A). The label pre-harvest interval (PHI) is 14 days. In all cases, cotton was harvested at 14-16 days after the last application. Methoxyfenozide residues in cottonseed ranged from 0.1-1.75 ppm. The average residue from all GAP trials is 0.5 ±0.40 ppm. Residues of methoxyfenozide in gin trash ranged from 3.84 to 22.3 ppm with an average of 12.1 ±6.35 ppm. Residues did not concentrate in meal, hulls and refined oil.

4. *Pome fruit*. Six pears and twelve apples trials were conducted in 1996 and 1997 with INTREPID 80WP at an application rate of 0.3 lb. AI/acre for a total of six applications. Samples of fruit collected 14-15 days after the last application. Residues of methoxyfenozide in apples ranged from 0.16 to 1.18 ppm and in pears from 0.26 to 0.93 ppm. The average residue in apples is 0.53 ±0.28 ppm and in pears is 0.43 ±0.24 ppm. The combined apple and pear residue average is 0.50 ±0.26 ppm. Residues of methoxyfenozide did not concentrated in apple juice but did concentrate in wet apple pomace.

5. *Cattle feeding study*. A 28 day feeding study was conducted in which dairy cows were fed daily doses of 0, 15, 45 and 150 ppm methoxyfenozide. Tissues and milk samples were collected analyzed using validated analytical methods. The analytes of concern included parent methoxyfenozide in all matrices and its metabolite, RH-1518, the glucuronic acid conjugate of the free phenol in kidney and liver. Overall, average methoxyfenozide residues (or sum of methoxyfenozide and RH-1518 residues for kidney and liver) were < 0.05 ppm in the tissues (fat, muscle and kidney) from the 45 ppm dose level except in liver (0.066 ppm). In milk, methoxyfenozide average residues were less than the LOQ, 0.01 ppm, at the 45 ppm dose levels.

B. Toxicological Profile

1. *Acute toxicity—methoxyfenozide has low acute toxicity*. Methoxyfenozide was practically non-toxic by ingestion of a single oral dose in rats and mice (LD_{50} < 5,000 milligram/kilogram (mg/kg)) and was practically non-toxic by dermal application (LD_{50} < 5,000 mg/kg). Methoxyfenozide was not significantly toxic to rats after a 4 hours inhalation exposure with an LC_{50} value of > 4.3 mg/L (highest attainable concentration), is not considered to be a primary eye irritant or a skin irritant and is not a dermal sensitizer. An acute neurotoxicity study in rats did not produce any neurotoxic or neuropathologic effects with a No

observed adverse effect level (NOAEL) > 2,000 mg/kg.

2. *Genotoxicty*. Methoxyfenozide tested negative (non-mutagenic, non-genotoxic) in a battery of *in vitro* and *in vivo* assays, which included an Ames assay with and without metabolic activation, a CHO/HGPRT assay, an *in vitro* chromosome aberration assay in CHO cells with and without a metabolic activation, an *in vivo* micronucleus assay in mouse bone marrow cells.

3. *Reproductive and developmental toxicity*. NOAEL for developmental and maternal toxicity to methoxyfenozide were established at 1,000 milligrams/kilogram/day (mg/kg/day) highest dose tested (HDT) in both the rat and rabbit. No signs of developmental toxicity were exhibited.

In a 2-generation reproduction study in the rat, the reproductive/developmental toxicity NOAEL of 1,552 mg/kg/day was 100-fold higher than the parental (systemic) toxicity NOAEL of 200 ppm (15.5 mg/kg/day).

4. *Subchronic toxicity*. The NOAEL in a 90-day rat feeding study was 1,000 ppm (69.3 mg/kg/day for males, 72.4 mg/kg/day for females). The lowest-observed-effect-level (LOAEL) was 5,000 ppm (353 mg/kg/day for males, 379 mg/kg/day for females). Increased liver weight and liver histopathology were observed at the LOAEL of 5,000 ppm. Methoxyfenozide did not produce neurotoxic or neuropathologic effects when administered in the diets of rats for 3 months at concentrations up to and including the limit dose of 20,000 ppm (NOAEL = 1,318 mg/kg/day for males, 1,577 mg/kg/day for females).

i. In a 90-day feeding study with mice, the NOAEL was 2,500 ppm (428 and 589 mg/kg/day for males and females, respectively). The LOAEL was 7,000 ppm (1,149 and 1,742 mg/kg/day for males and females, respectively). Decreases in body weight gain (bwt/gain) were noted in both sexes of mice at the LOAEL of 7,000 ppm.

ii. A 90 day dog feeding study gave a NOAEL of 3,000 ppm, the highest dose tested (HDT) (198 and 209 mg/kg/day for males and females, respectively). Extension of treatment of the low dose animals for 6 weeks at 15,000 ppm (422 and 460 mg/kg/day for males and females, respectively) produced no signs of systemic toxicity.

Methoxyfenozide did not produce toxicity in the rat when administered dermally for 4 weeks at doses up to and including the limit dose of 1,000 mg/kg/day. These findings correlate with the low dermal penetration observed with ^{14}C-methoxyfenozide, formulated as the wettable powder, (i.e., after 24 hours 1-3% of the administered dose was systemically absorbed).

5. *Chronic toxicity*—i. The NOAEL in a 1 year feeding study in dogs was 300 ppm (9.8 and 12.6 mg/kg/day for male and females, respectively). The LOAEL was 3,000 ppm (106 and 111 mg/kg/day for male and females, respectively) based on minimal hematological effects.

ii. An 18 month mouse carcinogenicity study showed no signs of carcinogenicity at dosage levels up to and including 7,000 ppm (1,020 and 1,354 mg/kg/day for male and females, respectively), HDT.

iii. In a combined rat chronic/oncogenicity study, the NOAEL for chronic toxicity was 200 ppm (10.2 and 11.9 mg/kg/day for males and females, respectively) and the LOAEL was 8,000 ppm (411 and 491 mg/kg/day for males and females, respectively). No carcinogenicity was observed at the dosage levels up to 20,000 ppm (1,045 and 1,248 mg/kg/day for males and females, respectively).

6. *Animal metabolism*. In toxicokinetic and metabolism studies in the rat, methoxyfenozide was rapidly absorbed following oral exposure with peak plasma levels occurring within 0.5 hour of administration. Methoxyfenozide does not bioaccumulate in that the compound is rapidly and almost completely eliminated within 24 hours. Methoxyfenozide was extensively metabolized in rats. Including parent compound, 32 metabolites, of which 26 were identified, were isolated from the rat urine and feces. The primary pathway of methoxyfenozide metabolism involves demethylation of the A-ring methoxyl moiety to form the corresponding A-ring phenol, RH-117,236, which is readily conjugated with glucuronic acid to RH-1518. Hydroxylation on the B-ring methyl moieties is also an important metabolic pathway.

7. *Metabolite toxicology*. Common metabolic pathways for methoxyfenozide have been identified in both plants (apple, cotton and grape), and animals (,goat, hen, rat). Extensive degradation and elimination of polar metabolites occurs in animals such that residues are unlikely to accumulate in humans or animals exposed to these residues through the diet. The rapid metabolism and excretion of methoxyfenozide in part accounts for the compound's overall low toxicity profile in animals. The main metabolite of methoxyfenozide in plants and animals, the A-ring phenol, RH-117,236, produced no toxicity in mice (LD_{50} > 5,000 mg/kg) and was negative when tested in the Ames mutagenic assay. Other metabolites of methoxyfenozide (e.g., glucuronides) would be expected to produce minimal to no toxicity given structure activity considerations.

8. *Endocrine disruption*. Based on structure-activity information as well as the lack of developmental and reproductive toxicity, methoxyfenozide is unlikely to exhibit estrogenic activity. No indicators of estrogenic or other endocrine effects were observed in mammalian chronic studies or in mammalian and avian reproduction studies. Methoxyfenozide is within a class of chemistry (diacylhydrazines) that is not known to bind to mammalian steroid receptors. Overall, the weight of evidence provides no indication that methoxyfenozide has endocrine activity in vertebrates.

C. Aggregate Exposure

1. *Dietary exposure*. Tolerances are proposed for the residues of methoxyfenozide in or cottonseed, cotton gin trash, pome fruit, apple pomace, and livestock commodities. Risk assessments were conducted by Rohm and Haas to assess dietary exposures and risks from methoxyfenozide as follows:

2. *Acute exposure and risk*. No acute endpoint of concern was identified for methoxyfenozide and no acute risk assessment is required.

3. *Chronic exposure and risk*. For chronic dietary risk assessment, the proposed tolerance values and anticipated (average) residues are used and the assumption that 100% of all cotton and pome fruit will contain residues of methoxyfenozide at the tolerance or anticipated residue levels. The Reference dose (RfD) used for the chronic dietary analysis is 0.1 mg/kg/day based on the NOAEL of 9.8-10.0 mg/kg/day from the rat and dogs chronic studies. Potential chronic exposures were estimated using NOVIGEN'S Dietary Exposure Evaluation Model (DEEM Version 5.03b) which uses USDA food consumption data from the 1989-1992 survey. With the proposed tolerances and anticipated residue levels for methoxyfenozide, the percentage of the RfD utilized is as follows:

Population Subgroups	Tolerance Levels	Anticipated Residues
	Total % RfD	Total %RfD
U.S. Population - 48 States	1.7	0.3
Nursing Infants < 1 year old	1.5.7	0.7
Non-Nursing Infants < 1 year old[2]	19.0	1.7
Children 1-6 years old	6.8	1.3
Children 7-12 years old	.2.7	0.7

The chronic dietary risks from these uses do not exceed EPA's level of concern.

4. *Drinking water.* Submitted environmental fate studies suggest that methoxyfenozide is moderately persistent and mobile, and could potentially leach to groundwater and runoff to surface water under certain environmental conditions. However, in terrestrial field dissipation and orchard dissipation studies, residues of methoxyfenozide showed minimal mobility and remained associated with the upper layers of soil. Foliar interception (up to 70% of the total dosage applied) by target crops reduces the ground level residues of methoxyfenozide.

Acute and chronic exposures to methoxyfenozide in drinking water were estimated using the GEENEC V1.2 and SCI-GROW models, as directed in OPP's Interim Approach for Addressing Drinking Water Exposure. GEENEC is a highly conservative model used to estimate residue concentrations in surface water. SCI-GROW is an equally conservative model used to estimate residue concentrations in shallow, highly vulnerable ground water (i.e., sites with sandy soils and depth to ground water of 10 to 20 feet). As indicated in EPA's drinking water exposure guidance, a very small percentage of people in the U.S. would derive their drinking water from such sources. GEENEC (56 Day average) and SCI-GROW water exposure values for methoxyfenozide utilize 1% or less of the RfD for adults and children.

There is no established Maximum Concentration Level (MCL) for residues of methoxyfenozide in drinking water. No drinking water health advisory levels have been established for methoxyfenozide. There is no entry for methoxyfenozide in the ''Pesticides in Groundwater Database'' (EPA 734-12-92-001, September 1992).

5. *Chronic exposure and risk*. There are insufficient water-related exposure data to complete a comprehensive drinking water assessment for methoxyfenozide at this time. However, in order to mitigate the potential for methoxyfenozide to leach into groundwater or runoff to surface water, precautionary language has been incorporated into the proposed product label. Also, to the best of our knowledge, previous experience at EPA with more persistent and mobile pesticides for which there were available data to perform quantitative risk assessments demonstrated that drinking water exposure was typically a small percentage of the total dietary exposure. This observation holds even for pesticides detected in wells and drinking water at levels nearing or exceeding established MCLs. Considering the precautionary language on the label and our knowledge of previous experience with persistent chemicals, no risk from residues of methoxyfenozide in drinking water is anticipated.

6. *Non-dietary exposure*. Methoxyfenozide is not currently registered for any indoor or outdoor residential uses; therefore, no non-dietary residential exposure is anticipated.

D. Cumulative Effects

Cumulative exposure to substances with common mechanism of toxicity: The methodologies to resolve the complex scientific issues concerning common mechanism of toxicity in a meaningful way are not available at this time. EPA has begun a pilot process to study this issue further through the examination of particular classes of pesticides. The Agency hopes that the results of this pilot process will increase the Agency's scientific understanding of this question such that EPA will be able to develop and apply scientific principles for better determining which chemicals have a common mechanism of toxicity and evaluating the cumulative effects of such chemicals. The Agency anticipates, however, that even as its understanding of the science of common mechanisms increases, decisions on specific classes of chemicals will be heavily dependent on chemical specific data, much of which may not be presently available.

Although at present the Agency does not know how to apply the information in its files concerning common mechanism issues to most risk assessments, there are pesticides for which the common mechanism issues can be resolved. These pesticides include pesticides that are toxicologically dissimilar to existing chemical substances (in which case the Agency can conclude that it is unlikely that a pesticide shares a common mechanism of activity with other substances) and pesticides that produce a common toxic metabolite (in which case common mechanism of activity will be assumed).

At this time, no data are available to determine whether methoxyfenozide [benzoic acid, 3-methoxy-2-methyl-, 2-(3,5-dimethylbenzoyl)-2-(1,1-dimethylethyl) hydrazide] has a common mechanism of toxicity with other substances. Thus, it is not appropriate to include this pesticide in a cumulative risk assessment. Unlike other pesticides for which EPA has followed a cumulative risk approach based on a common mechanism of toxicity, methoxyfenozide [benzoic acid, 3-methoxy-2-methyl-, 2-(3,5-dimethylbenzoyl)-2-(1,1-dimethylethyl) hydrazide] does not produce a toxic metabolite produced by other substances. For the purposes of this tolerance action, therefore, methoxyfenozide [benzoic acid, 3-methoxy-2-methyl-, 2-(3,5-dimethylbenzoyl)-2-(1,1-dimethylethyl) hydrazide] is assumed not to have a common mechanism of toxicity with other substances.

E. Safety Determination

1. *U.S. population—Acute exposure and risk*. Since no acute endpoint of concern has been identified for methoxyfenozide, no acute risk assessment is required.

2. *Chronic exposure and risk*. Using the conservative exposure assumptions described above and taking into account the completeness and reliability of the toxicity data, the percentage of the RfD that will be utilized by dietary (food only) exposure to residues of methoxyfenozide from the proposed tolerances is 1.7% (tolerance levels) and 0.3% (anticipated residues) for the U.S. population. Aggregate exposure (food and water) are not expected to exceed 100%. EPA generally has no concern for exposures below 100% of the RfD

because the RfD represents the level at or below which daily aggregate dietary exposure over a lifetime will not pose appreciable risks to human health. Rohm and Haas concludes that there is a reasonable certainty that no harm will result from aggregate exposure to methoxyfenozide residues to the U.S. population.

3. *Infants and children— Safety factor for infants and children*— i. *In general*. The potential for additional sensitivity of infants and children to residues of methoxyfenozide are assessed using data from developmental toxicity studies in the rat and rabbit and 2-generation reproduction studies in the rat. The developmental toxicity studies are designed to evaluate adverse effects on the developing organism resulting from maternal pesticide exposure during gestation. Reproduction studies provide information relating to effects from exposure to the pesticide on the reproductive capability of mating animals and data on systemic toxicity.

ii. *Developmental toxicity studies— Rats*. In a developmental toxicity study in rats, the maternal (systemic) NOAEL was 1,000 mg/kg/day HDT. The developmental (pup) NOAEL was > 1,000 mg/kg/day HDT).

iii. *Rabbits*. In a developmental toxicity study in rats, the maternal (systemic) NOAEL was 1,000 mg/kg/day HDT. The developmental (pup) NOAEL was > 1,000 mg/kg/day HDT.

iv. *Reproductive toxicity study rats*. In a multigeneration reproductive toxicity study in rats, the parental (systemic) NOAEL was 15.5 mg/kg/day, based on liver effects at the LOAEL of 153 mg/kg/day. The reproductive (pup) NOAEL was 1,552 mg/kg/day HDT. No adverse reproductive effects were observed.

v. *Pre- and post-natal sensitivity—Pre-natal sensitivity*. The developmental NOAELs of >1,000 mg/kg/day HDT from the developmental toxicity studies in rats and rabbits demonstrate that there is no developmental (prenatal) toxicity present for methoxyfenozide. Additionally, these developmental NOAELs are greater than 100-fold higher than the NOAEL of 9.8-10.0 mg/kg/day from the rat and dogs chronic studies which are the basis of the RfD.

vi. *Post-natal sensitivity*. In the reproductive toxicity study in rats, the reproductive NOAEL (1,552 mg/kg/day) is about 100-fold higher than the parental NOAEL (15.5 mg/kg/day). These developmental and reproductive studies indicate that methoxyfenozide does not have additional pre- and post-natal sensitivity for infants and children in comparison to other exposed groups.

vii. *Acute exposure and risk*. No acute endpoint was identified for methoxyfenozide, and therefore no acute risk assessment is required.

viii. *Chronic exposure and risk*. For chronic dietary risk assessment, tolerances and anticipated residue values are used and the assumption that 100% of all cotton and pome fruit will contain residues at the tolerance or anticipated residue levels. The percentage RfD utilized from the proposed tolerances and anticipated residues is calculated using the Dietary Exposure Evaluation Model (Version 5.03b, licensed by Novigen Sciences Inc.) which uses USDA food consumption data from the 1989-1992 survey.

With the proposed tolerances and anticipated residues for methoxyfenozide, the percentage of the RfD that will be utilized by dietary (food only) exposure to residues of methoxyfenozide is 9.0% (tolerance levels) and 1.7% (anticipated residues) for non-nursing infants less than 1 year old. Aggregate exposure (food and water) are not expected to exceed 100%. Rohm and Haas concludes that there is a reasonable certainty that no harm will result from aggregate exposure to methoxyfenozide residues to non-nursing infants.

F. International Tolerances

There are currently no CODEX, Canadian or Mexican maximum residue levels (MRLs) established for methoxyfenozide in cottonseed, gin trash, pome fruit, apple pomace, or livestock commodities so no harmonization issues are required for this action.

4. Valent U.S.A. Company

PP 8F5022

EPA has received a pesticide petition (PP 8F5022) from Valent U.S.A. Company, 1333 North California Boulevard, Suite 600, Walnut Creek, CA 94596-8025., proposing pursuant to section 408(d) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 346a(d), to amend 40 CFR part 180 by establishing a tolerance for residues of pyriproxyfen, 2-[1-methyl-2-(4-phenoxyphenoxy)ethoxy]pyridine in or on the raw agricultural commodity almond hulls at 2.0 parts per million (ppm), citrus fruits (crop group 10) at0.3 ppm, fruiting vegetables (crop group 8) at 0.1 ppm, tree nuts (crop group 14) at 0.02 ppm, and in the processed commodities citrus oil at 20 ppm and dried citrus pulp at 1.5 ppm. EPA has determined that the petition contains data or information regarding the elements set forth in section 408(d)(2) of the FFDCA; however, EPA has not fully evaluated the sufficiency of the submitted data at this time or whether the data supports granting of the petition. Additional data may be needed before EPA rules on the petition.

A. Residue Chemistry

1. *Plant metabolism— Nature of the residues in food, feed and secondary residues*. Metabolism of ^{14}C-pyriproxyfen labelled in the phenoxyphenyl ring and in the pyridyl ring has been studied in cotton, apples, tomatoes, lactating goats, and laying hens (and rats). The major metabolic pathways in plants is aryl hydroxylation and cleavage of the ether linkage, followed by further metabolism into more polar products by further oxidation and/or conjugation reactions. However, the bulk of the radiochemical residue on RAC samples remained as parent. Comparing metabolites detected and quantified from apple, cotton, tomato, goat and hen (and rat) shows that there are no significant aglycones in plants which are not also present in the excreta or tissues of animals. The residue of concern is best defined as the parent, pyriproxyfen. Ruminant and poultry metabolism studies demonstrated that transfer of administered ^{14}C-residues to tissues was low. Total ^{14}C-residues in goat milk, muscle and tissues accounted for less than 2% of the administered dose, and were less than 1 parts per million (ppm) in all cases. In poultry, total ^{14}C residues in eggs, muscle and tissues accounted for about 2.7% of the administered dose, and were less than 1 ppm in all cases except for gizzard.

2. *Analytical method—Priproxyfen and metabolites*. Practical analytical methods for detecting and measuring residue levels of pyriproxyfen (and relevant metabolites) have been developed and validated in/on all appropriate agricultural commodities, respective processing fractions, milk, animal tissues, and environmental samples. The extraction methodology has been validated using aged radiochemical residue samples from metabolism studies. The methods have been validated in cottonseed, apples, soil, and oranges at independent laboratories. EPA has successfully validated the analytical method for analysis of cottonseed raw agricultural commodity. The limit of detection of pyriproxyfen in the methods is 0.01 ppm which will allow monitoring of food with residues at the levels proposed for the tolerances.

3. *Magnitude of residues*—i. *Almonds*. Data from six field trials in almonds all conducted in 1997 in California showed that at the proposed maximum

application rate there were no detectable residues in nutmeats (>0.01 ppm pyriproxyfen). In a single sample at twice the maximum rate, pyriproxyfen was measured just at the limit of detection (0.01 ppm). Almond hulls are exposed to application and are used as ruminant feed. In/on almond hulls, the average measured residue was 0.78 ppm ($n = 12, \sigma_{n-1} = 0.41$ ppm) pyriproxyfen. A tolerance of 0.02 ppm in/on tree nutmeats and 2.0 in/on almond hulls is proposed. The proposed nutmeat tolerance, twice the limit of detection, is completely consistent with previously submitted data on walnut nutmeats, and supports the proposed tree nut crop group tolerance.

ii. *Citrus*. Thirteen field trials in oranges were conducted in 1996 through 1998. Similarly, six field trials were conducted for lemons, and seven field trials were conducted for grapefruit. The proposed use pattern for the three citrus crops is identical. The analytical data show that the average measured residue in/on orange samples was 0.155 ppm ($n = 26, \sigma_{n-1} = 0.045$ ppm) pyriproxyfen. Similarly, the analytical data show that the average measured residue in/on lemon samples was 0.128 ppm ($n = 12, \sigma_{n-1} = 0.073$ ppm), and in/on grapefruit samples was 0.123 ppm ($n = 14, \sigma_{n-1} = 0.025$ ppm), pyriproxyfen. In one unfrozen sample of oranges, peel was analyzed separately from pulp demonstrating that the residue of pyriproxyfen is on the exterior of the citrus fruit. A processing study in oranges demonstrated that pyriproxyfen concentrated in orange oil (74-fold) and in dried orange pulp (6.3-fold) but did not concentrate in orange juice (>0.03-fold). The highest average residue (HAR) from field trials was 0.22 ppm. All these data support proposed tolerances for pyriproxyfen in/on citrus fruit crop group at 0.3 ppm, citrus oil at 20 ppm, and dried citrus pulp at 1.5 ppm

iii. *Peppers*. Data from ten field trials in bell and non-bell peppers conducted in 1997 showed that the average measured residue was 0.025 ppm ($n = 20, \sigma_{n-1} = 0.24$ ppm) pyriproxyfen. These data along with tomato data support a proposed fruiting vegetable crop group tolerance of 0.1 ppm.

iv. *Tomatoes*. Data from thirteen field trials in tomatoes conducted in 1996 and 1997 showed that the average measured residue was 0.016 ppm ($n = 26, \sigma_{n-1} = 0.010$ ppm) pyriproxyfen. The proposed use pattern is identical to that proposed for peppers and allows a maximum seasonal application totaling 0.176 lb. ai/acre (80 grams ai./acre), with a maximum single application rate of 0.066 lb. ai./acre (30 grams ai./acre), at a minimum 7 days interval between applications, and with the last application no less than 14 days before harvest. A processing study demonstrated that pyriproxyfen did not concentrate in tomato puree or tomato paste and no processed product tolerances are necessary. These data along with pepper data support a proposed fruiting vegetable crop group tolerance of 0.1 ppm.

v. *Secondary residues*. Using proposed tolerances to calculate the maximum feed exposure to fed animals, and using the very low potential for residue transfer documented in the milk cow feeding residue study, finite, detectable secondary residues in animal tissues, milk, and eggs are not expected. Therefore, tolerances are not proposed for these commodities.

vi. *Rotational crops*. The results of a confined rotational crops accumulation study indicate that no rotational crop planting restrictions or rotational crop tolerances are required.

B. Toxicological Profile

1. *Acute toxicity*. The acute toxicity of technical grade pyriproxyfen is low by all routes. The compound is classified as Category III for acute dermal and inhalation toxicity, and Category IV for acute oral toxicity, and skin/eye irritation. Pyriproxyfen is not a skin sensitizing agent.

2. *Genotoxicty*—pyriproxyfen does not present a genetic hazard. Pyriproxyfen was negative in the following tests for mutagenicity: Ames assay with and without S9, *in vitro* unscheduled DNA synthesis in HeLa S3 cells, *in vitro* gene mutation in V79 Chinese hamster cells, and *in vitro* chromosomal aberration with and without S9 in Chinese hamster ovary cells.

3. *Reproductive and developmental toxicity*. Pyriproxyfen is not a developmental or reproductive toxicant. Developmental toxicity studies have been performed in rats and rabbits, and multigenerational effects on reproduction were tested in rats. These studies have been reviewed and found to be acceptable to the Agency.

In the developmental toxicity study conducted with rats, technical pyriproxyfen was administered by gavage at levels of 0, 100, 300, and 1,000 milligram kilogram body weight day (mg/kg/bwt/day) during gestation days 7-17. Maternal toxicity (mortality, decreased body weight gain and food consumption, and clinical signs of toxicity) was observed at doses of 300 mg/kg/bwt/day and greater. The maternal no observed adverse effect level (NOAEL) was 100 mg/kg/bwt/day. A transient increase in skeletal variations was observed in rat fetuses from females exposed to 300 mg/kg/bwt/day and greater. These effects were not present in animals examined at the end of the postnatal period, therefore, the NOAEL for prenatal developmental toxicity was 100 mg/kg/bwt/day. An increased incidence of visceral and skeletal variations was observed postnatally at 1,000 mg/kg/bwt/day. The NOAEL for postnatal developmental toxicity was 300 mg/kg/bwt/day.

In the developmental toxicity study conducted with rabbits, technical pyriproxyfen was administered by gavage at levels of 0, 100, 300, and 1,000 mg/kg/bwt/day during gestation days 6-18. Maternal toxicity (clinical signs of toxicity including one death, decreased body weight gain and food consumption, and abortions or premature deliveries) was observed at oral doses of 300 mg/kg bw/day or higher. The maternal NOEL was 100 mg/kg bw/day. No developmental effects were observed in the rabbit fetuses. The NOAEL for developmental toxicity in rabbits was 1,000 mg/kg/bwt/day.

In the rat reproduction study, pyriproxyfen was administered in the diet at levels of 0, 200, 1,000, and 5,000 ppm through 2-generations of rats. Adult systemic toxicity (reduced body weights, liver and kidney histopathology, and increased liver weight) was produced at the 5,000 ppm dose (453 mg/kg/bwt/day in males, 498 mg/kg/bwt/day in females) during the pre-mating period. The systemic NOAEL was 1,000 ppm (87 mg/kg/bwt/day in males, 96 mg/kg/bwt/day in females). No effects on reproduction were produced at 5,000 ppm, the highest dose tested (HDT).

4. *Subchronic toxicity*. Subchronic oral toxicity studies conducted with pyriproxyfen technical in the rat, mouse and dog indicate a low level of toxicity. Effects observed at high dose levels consisted primarily of decreased body weight gain; increased liver weights; histopathological changes in the liver and kidney; decreased red blood cell counts, hemoglobin and hematocrit; altered blood chemistry parameters; and, at 5,000 and 10,000 ppm in mice, a decrease in survival rates. The NOAELs from these studies were 400 ppm (23.5 mg/kg/bwt/day for males, 27.7 mg/kg/bwt/day for females) in rats, 1,000 ppm (149.4 mg/kg/bwt/day for males, 196.5 mg/kg/bwt/day for females) in mice, and 100 mg/kg/bwt/day in dogs.

In a 4 week inhalation study of pyriproxyfen technical in rats, decreased body weight and increased

water consumption were observed at 1,000 mg/m^3. The NOAEL in this study was 482 mg/m^3.

A 21 day dermal toxicity study in rats with pyriproxyfen technical did not produce any signs of dermal or systemic toxicity at 1,000 mg/kg/bwt/day, the HDT. In a 21 day dermal study conducted with KNACK. Insect Growth Regulator the test material produced a NOAEL of 1,000 mg/kg/bwt/day (HDT) for systemic effects, and a NOAEL for skin irritation of 100 mg/kg/bwt/day.

5. *Chronic toxicity*. Pyriproxyfen technical has been tested in chronic studies with dogs, rats and mice. EPA has established a reference dose (RfD) for pyriproxyfen of 0.35 mg/kg/bwt/day, based on the NOAEL in female rats from the 2 year chronic/oncogenicity study. Effects cited by EPA in the RfD Tracking Report include negative trend in mean red blood cell volume, increased hepatocyte cytoplasm and cytoplasm:nucleus ratios, and decreased sinusoidal spaces.

Pyriproxyfen is not a carcinogen. Studies with pyriproxyfen have shown that repeated high dose exposures produced changes in the liver, kidney and red blood cells, but did not produce cancer in test animals. No oncogenic response was observed in a rat 2 year chronic feeding/oncogenicity study or in a 78 week study on mice. The oncogenicity classification of pyriproxyfen is ''E'' (no evidence of carcinogenicity for humans).

Pyriproxyfen technical was administered to dogs in capsules at doses of 0, 30, 100, 300 and 1,000 mg/kg/bwt/day for 1 year. Dogs exposed to dose levels of 300 mg/kg/bwt/day or higher showed overt clinical signs of toxicity, elevated levels of blood enzymes and liver damage. The NOAEL in this study was 100 mg/kg/bwt/day.

Pyriproxyfen technical was administered to mice at doses of 0, 120, 600 and 3,000 ppm in diet for 78 weeks. The NOAEL for systemic effects in this study was 600 ppm (84 mg/kg/bwt/day in males, 109.5 mg/kg/bwt/day in females), and a lowest observed adverse effect level (LOAEL) of 3,000 ppm (420 mg/kg/bwt/day in males, 547 mg/kg/bwt/day in females) was established based on an increase in kidney lesions.

In a 2 year study in rats, pyriproxyfen technical was administered in the diet at levels of 0, 120, 600, and 3,000 ppm. The NOAEL for systemic effects in this study was 600 ppm (27.31 mg/kg/bwt/day in males, 35.1 mg/kg/bwt/day in females). A LOAEL of 3,000 ppm (138 mg/kg/bwt/day in males, 182.7 mg/kg/bwt/day in females) was established based on a depression in body weight gainin females.

6. *Animal metabolism*. The absorption, tissue distribution, metabolism and excretion of ^{14}C-labeled pyriproxyfen were studied in rats after single oral doses of 2 or 1,000 mg/kg/bwt (phenoxyphenyl and pyridyl label), and after a single oral dose of 2 mg/kg/bwt (phenoxyphenyl label only) following 14 daily oral doses at 2 mg/kg/bwt of unlabelled material. For all dose groups, most (88-96%) of the administered radiolabel was excreted in the urine and feces within 2 days after radiolabeled test material dosing, and 92-98% of the administered dose was excreted within 7 days. 7 days after dosing, tissue residues were generally low, accounting for no more than 0.3% of the dosed ^{14}C. Radiocarbon concentrations in fat were the higher than in other tissues analyzed. Recovery in tissues over time indicates that the potential for bioaccumulation is minimal. There were no significant sex or dose-related differences in excretion or metabolism.

7. *Metabolite toxicology*. Metabolism studies of pyriproxyfen in rats, goats and hens, as well as the fish bioaccumulation study demonstrate that the parent is very rapidly metabolized and eliminated. In the rat, most (88-96%) of the administered radiolabel was excreted in the urine and feces within 2 days of dosing, and 92-98% of the administered dose was excreted within 7 days. Tissue residues were low 7 days after dosing, accounting for no more than 0.3% of the dosed ^{14}C. Because parent and metabolites are not retained in the body, the potential for acute toxicity from in situ formed metabolites is low. The potential for chronic toxicity is adequately tested by chronic exposure to the parent at the MTD and consequent chronic exposure to the internally formed metabolites.

Seven metabolites of pyriproxyfen, 4'-OH-pyriproxyfen, 5''-OH-pyriproxyfen, desphenyl-pyriproxyfen, POPA, PYPAC, 2-OH-pyridine and 2,5-diOH-pyridine, have been tested for mutagenicity (Ames) and acute oral toxicity to mice. All seven metabolites were tested in the Ames assay with and without S9 at doses up to 5,000 micro-grams per plate or up to the growth inhibitory dose. The metabolites did not induce any significant increases in revertant colonies in any of the test strains. Positive control chemicals showed marked increases in revertant colonies. The acute toxicity to mice of 4'-OH-pyriproxyfen, 5''-OH-pyriproxyfen, desphenyl-pyriproxyfen, POPA, and PYPAC did not appear to markedly differ from pyriproxyfen, with all metabolites having acute oral LD_{50} values greater than 2,000 mg/kg/bwt. The two pyridines, 2-OH-pyridine and 2,5-diOH-pyridine, gave acute oral LD_{50} values of 124 (male) and 166 (female) mg/kg/bwt, and 1,105 (male) and 1,000 (female) mg/kg/bwt, respectively.

8. *Endocrine disruption*. Pyriproxyfen is specifically designed to be an insect growth regulator and is known to produce juvenoid effects on arthropod development. However, this mechanism-of-action in target insects and other some arthropods has no relevance to any mammalian endocrine system. While specific tests, uniquely designed to evaluate the potential effects of pyriproxyfen on mammalian endocrine systems have not been conducted, the toxicology of pyriproxyfen has been extensively evaluated in acute, sub-chronic, chronic, developmental, and reproductive toxicology studies including detailed histopathology of numerous tissues. The results of these studies show no evidence of any endocrine-mediated effects and no pathology of the endocrine organs. Consequently, it is concluded that pyriproxyfen does not possess estrogenic or endocrine disrupting properties applicable to mammals.

C. Aggregate Exposure

1. *Dietary exposure*. An evaluation of acute and chronic dietary exposure to include drinking water has been performed for the U.S. population and various sub-populations including infants and children. Because of the lack of identified toxic endpoints of concern for acute dietary exposure, the results of the acute evaluations are not reported in this analysis.

2. *Food*. Chronic dietary exposure to pyriproxyfen residues was calculated for the U.S. population and 26 population subgroups assuming tolerance level residues and 100% of the crop treated. The results from several representative subgroups are listed below. Chronic dietary exposure was at or below 0.22 % of the reference dose with pome fruits, fruiting vegetables and citrus the commodities contributing the most to chronic exposure. Generally speaking, the Agency has no cause for concern if total residue contribution for published and proposed tolerances is less than 100% of the RfD.

Tier I Calculated Chronic Dietary Exposures to the total U.S. Population and Selected Sub-Populations to Pyriproxyfen Residues in Food

Population Subgroup	Exposure	Percent of
	(mg/kg/bw/day)	RfD
Total U.S. Population (all seasons)	0.000237	0.067
Females (13+/Nursing)	0.000310	0.089
Females (20+ years, not preg. or nursing	0.000188	0.054
Children (1-6 Years)	0.000544	0.154
All Infants (<1 Year Old)	0.000629	0.180
Non-Nursing Infants (<1 Year Old)	0.000771	0.220
Nursing Infants (<1 Year Old)	0.000293	0.084

Acute dietary risk assessments are performed for a food use pesticide if a toxicological study has indicated the possibility of an effect of concern occurring as the result of a 1 day or single exposure. No acute dietary endpoint and dose was identified in the toxicology data base for pyriproxyfen, therefore the Agency has concluded that there is a reasonable certainty of no harm from acute dietary exposure.

3. *Drinking water.* Since pyriproxyfen is applied outdoors to growing agricultural crops, the potential exists for pyriproxyfen or its metabolites to reach ground or surface water that may be used for drinking water. Because of the physical properties of pyriproxyfen, it is unlikely that pyriproxyfen or its metabolites can leach to potable groundwater. To quantify potential exposure from drinking water, surface water concentrations for pyriproxyfen were estimated using GENEEC 1.3. The average 56 day concentration predicted in the simulated pond water was 0.16 ppb. Using standard assumptions about body weight and water consumption, the chronic exposure to pyriproxyfen from this drinking water would be 4.57 x 10^{-6} and 1.6 x 10^{-5} mg/kg/bwt/day for adults and children, respectively; 0.0046 percent of the RfD (0.35 mg/Kg/day) for children. Based on this worse case analysis, the contribution of water to the dietary risk is negligible.

4. *Non-dietary exposure.* Pyriproxyfen is the active ingredient in numerous registered products for household use -- primarily for indoor, non-food applications by consumers. The consumer uses of pyriproxyfen typically do not involve chronic exposure. Instead, consumers are exposed intermittently to a particular product (e.g., pet care pump spray) containing pyriproxyfen. Since pyriproxyfen has a relatively short elimination half-life, cumulative toxicological effects resulting from bioaccumulation are not plausible following short-term, intermittent exposures. Further, pyriproxyfen is short-lived in the environment and this indoor domestic use of pyriproxyfen provides only relatively short-term reservoirs. Thus, consumer use of these products results in acute and short term intermittent exposures. No acute dermal, or inhalation dose or endpoint was identified in the toxicity data for pyriproxyfen. Similarly, doses and endpoints were not identified for short and intermediate term dermal or inhalation exposure to pyriproxyfen. The Agency has concluded that there are reasonable certainties of no harm from acute, short term, and intermediate term dermal and inhalation occupational and residential exposures due to the lack of significant toxicological effects observed. Thus, no detailed exposure and risk analyses for non-dietary exposures to pyriproxyfen are necessary.

D Cumulative Effects

Section 408(b)(2)(D)(v) requires that the Agency must consider ''available information'' concerning the cumulative effects of a particular pesticide's residues and ''other substances that have a common mechanism of toxicity''. Available information in this context include not only toxicity, chemistry, and exposure data, but also scientific policies and methodologies for understanding common mechanisms of toxicity and conducting cumulative risk assessments. For most pesticides, although the Agency has some information in its files that may turn out to be helpful in eventually determining whether a pesticide shares a common mechanism of toxicity with any other substances, EPA does not at this time have the methodologies to resolve the complex scientific issues concerning common mechanism of toxicity in a meaningful way.

There are no other pesticidal compounds that are structurally related to pyriproxyfen and have similar effects on animals. In consideration of potential cumulative effects of pyriproxyfen and other substances that may have a common mechanism of toxicity, there are currently no available data or other reliable information indicating that any toxic effects produced by pyriproxyfen would be cumulative with those of other chemical compounds. Thus, only the potential risks of pyriproxyfen have been considered in this assessment of aggregate exposure and effects.

Valent will submit information for EPA to consider concerning potential cumulative effects of pyriproxyfen consistent with the schedule established by EPA at 62 FR 42020 (Aug. 4, 1997) and other subsequent EPA publications pursuant to the Food Quality Protection Act.

E. Safety Determination

1. *U.S. population—Chronic dietary exposure and risk— Adult sub-populations.* Using the Tier I dietary exposure assessment procedures described above for pyriproxyfen, calculated chronic dietary exposure resulting from residue exposure from existing and proposed uses of pyriproxyfen is minimal. The estimated chronic dietary exposure from food for the overall U.S. population and many non-child/infant subgroups is from 0.000175 to 0.000310 mg/kg/bwt/day, 0.05 to 0.089% of the RfD. Addition of the small but worse case potential chronic exposure from drinking water (calculated above) increases exposure by only 4.57 x 10^{-6} mg/kg/bwt/day and does not change the maximum occupancy of the RfD significantly. Generally, the Agency has no cause for concern if total residue contribution is less than 100% of the RfD. It can be concluded that there is a reasonable certainty that no harm will result to the overall U.S. population and many non-child/infant subgroups from aggregate, chronic exposure to pyriproxyfen residues.

2. *Acute dietary exposure and risk— Adult sub-populations.* An acute dietary dose and endpoint was not identified. Thus, the risk from acute aggregate exposure is considered to be negligible. Non-Dietary Exposure and Aggregate Risk -- Adult Sub-Populations: Acute, short term, and intermediate term dermal and inhalation risk assessments for residential exposure are not required due to the lack of significant toxicological effects observed.

3. *Infants and children*—i. *Safety factor for infants and children.* In

assessing the potential for additional sensitivity of infants and children to residues of pyriproxyfen, FFDCA section 408 provides that EPA shall apply an additional margin of safety, up to ten-fold, for added protection for infants and children in the case of threshold effects unless EPA determines that a different margin of safety will be safe for infants and children.

The toxicological data base for evaluating pre- and post-natal toxicity for pyriproxyfen is complete with respect to current data requirements. There are no special pre- or post-natal toxicity concerns for infants and children, based on the results of the rat and rabbit developmental toxicity studies or the 2-generation reproductive toxicity study in rats. Valent concludes that reliable data support use of the standard 100-fold uncertainty factor and that an additional uncertainty factor is not needed for pyriproxyfen to be further protective of infants and children.

ii. *Chronic dietary exposure and risk— Infants and children*. Using the conservative Tier I exposure assumptions described above, the percentage of the RfD that will be utilized by chronic dietary (food only) exposure to residues of pyriproxyfen ranges from 0.000293 mg/kg/bwt/day for Nursing Infants (<1 year old), up to 0.000771 mg/kg/bwt/day for Non-Nursing Infants (<1 year old), 0.084 to 0.220% of the RfD, respectively. Adding the worse case potential incremental exposure to infants and children from pyriproxyfen in drinking water (1.6 x 10^{-5} mg/kg/bwt/day) does not materially increase the aggregate, chronic dietary exposure and only increases the occupancy of the RfD by 0.0046% to 0.225% for Non-Nursing Infants (<1 year old). EPA generally has no concern for exposures below 100% of the RfD because the RfD represents the level at or below which daily aggregate dietary exposure over a lifetime will not pose appreciable risks to human health. It can be concluded that there is a reasonable certainty that no harm will result to infants and children from aggregate, chronic exposure to pyriproxyfen residues.

iii. *Acute dietary exposure and risk— Infants and children*. An acute dietary dose and endpoint was not identified. Thus, the risk from acute aggregate exposure is considered to be negligible. Non-Dietary Exposure and Aggregate Risk -- Infants and Children: Acute, short term, and intermediate term dermal and inhalation risk assessments for residential exposure are not required due to the lack of significant toxicological effects observed.

F. International Tolerances

Pyriproxyfen is a New Compound scheduled for Toxicological and Residue evaluations at the 1999 JMPR. Therefore, there are no presently existing Codex MRLs for pyriproxyfen.

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BILLING CODE 6560–50–F

ENVIRONMENTAL PROTECTION AGENCY

[FRL–6172–7]

Proposed Prospective Purchaser Agreement Pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as Amended by the Superfund Amendments and Reauthorization Act, Bonne Terre Superfund Site, St. Francois County, MO

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice; request for public comment.

SUMMARY: Notice is hereby given that a proposed prospective purchaser agreement associated with the Bonne Terre Superfund Site, located in St. Francois County, Missouri, was executed by the Agency on June 24, 1998, and concurred upon by the United States Department of Justice on September 10, 1998. This agreement is subject to final approval after the comment period. The Prospective Purchaser Agreement would resolve certain potential EPA claims under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (''CERCLA''), against the City of Bonne Terre, Missouri, the prospective purchasers (''the purchasers'').

The settlement would require the purchasers to eliminate any threat of direct exposure to the mine tailings by providing and maintaining a permanent clean cover over the entire property; level and grade the property so as to minimize the potential for erosion; agree to deed restrictions prohibiting residential use of the property or any other use that might attract children; properly handle any excavation of highly contaminated soils; and provide the EPA access to the Site.

For thirty (30) days following the date of publication of this document, the Agency will receive written comments relating to the proposed settlement.

DATES: Comments must be submitted on or before November 5, 1998.

ADDRESSES: Comments should reference the ''Bonne Terre Superfund Site Prospective Purchaser Agreement'' and should be forwarded to Jack Generaux, Remedial Project Manager, U.S. Environmental Protection Agency, Region VII, 726 Minnesota Avenue, Kansas City, Kansas 66101.

The proposed settlement is available for public inspection at the U.S. Environmental Protection Agency, Region VII, 726 Minnesota Avenue, Kansas City, Kansas 66101. A copy of the proposed agreement may be obtained from Eileen Gendreau, U.S. Environmental Protection Agency, Region VII, 726 Minnesota Avenue, Kansas City, Kansas 66101, (913) 551–7736.

FOR FURTHER INFORMATION CONTACT: David Cozad, Senior Associate Regional Counsel, United States Environmental Protection Agency, Region VII, 726 Minnesota Avenue, Kansas City, Kansas 66101, (913) 551–7587.

Dated: September 25, 1998.

William Rice,

Acting Regional Administrator, Region VII.

[FR Doc. 98–26788 Filed 10–5–98; 8:45 am]
BILLING CODE 6560–50–P

FARM CREDIT ADMINISTRATION

Sunshine Act Meeting; Farm Credit Administration Board; Regular Meeting

AGENCY: Farm Credit Administration.

SUMMARY: Notice is hereby given, pursuant to the Government in the Sunshine Act (5 U.S.C. 552b(e)(3)), of the forthcoming regular meeting of the Farm Credit Administration Board (Board).

DATE AND TIME: The regular meeting of the Board will be held at the offices of the Farm Credit Administration in McLean, Virginia, on October 8, 1998, from 2:00 p.m. until such time as the Board concludes its business.

FOR FURTHER INFORMATION CONTACT: Floyd Fithian, Secretary to the Farm Credit Administration Board, (703) 883–4025, TDD (703) 883–4444.

ADDRESSES: Farm Credit Administration, 1501 Farm Credit Drive, McLean, Virginia 22102–5090.

SUPPLEMENTARY INFORMATION: Parts of this meeting of the Board will be open to the public (limited space available), and parts of this meeting will be closed to the public. In order to increase the accessibility to Board meetings, persons requiring assistance should make