

**List of Subjects**

Environmental protection, Chemicals, Premanufacturer notices.

Dated: April 14, 2000.

**Deborah A. Williams,**

*Acting Director, Information Management Division, Office of Pollution Prevention and Toxics.*

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**ENVIRONMENTAL PROTECTION AGENCY**

[PF-937; FRL-6555-6]

**Notice of Filing a Pesticide Petition to Establish Tolerances for a Certain Pesticide Chemical in or on Food**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice.

**SUMMARY:** This notice announces the initial filing of a pesticide petition proposing the establishment of regulations for residues of a certain pesticide chemical in or on various food commodities.

**DATES:** Comments, identified by docket control number PF-937, must be received on or before May 22, 2000.

**ADDRESSES:** Comments may be submitted by mail, electronically, or in person. Please follow the detailed instructions for each method as provided in Unit I.C. of the "SUPPLEMENTARY INFORMATION." To ensure proper receipt by EPA, it is imperative that you identify docket control number PF-937 in the subject line on the first page of your response.

**FOR FURTHER INFORMATION CONTACT:** By mail: Mary L. Waller, EPA, Registration Division (7505C), Office of Pesticide Programs, Environmental Protection Agency, Ariel Rios Bldg., 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: (703) 308-9354; e-mail address: waller.mary@epamail.epa.gov.

**SUPPLEMENTARY INFORMATION:****I. General Information***A. Does this Action Apply to Me?*

You may be affected by this action if you are an agricultural producer, food manufacturer or pesticide manufacturer. Potentially affected categories and entities may include, but are not limited to:

Cat-egories	NAICS codes	Examples of potentially affected entities
Industry	111 112 311 32532	Crop production Animal production Food manufacturing Pesticide manufacturing

This listing is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. Other types of entities not listed in the table could also be affected. The North American Industrial Classification System (NAICS) codes have been provided to assist you and others in determining whether or not this action might apply to certain entities. If you have questions regarding the applicability of this action to a particular entity, consult the person listed under "FOR FURTHER INFORMATION CONTACT."

*B. How Can I Get Additional Information, Including Copies of this Document and Other Related Documents?*

1. *Electronically.* You may obtain electronic copies of this document, and certain other related documents that might be available electronically, from the EPA Internet Home Page at <http://www.epa.gov/>. To access this document, on the Home Page select "Laws and Regulations" and then look up the entry for this document under the "Federal Register—Environmental Documents." You can also go directly to the **Federal Register** listings at <http://www.epa.gov/fedrgstr/>.

2. *In person.* The Agency has established an official record for this action under docket control number PF-937. The official record consists of the documents specifically referenced in this action, any public comments received during an applicable comment period, and other information related to this action, including any information claimed as confidential business information (CBI). This official record includes the documents that are physically located in the docket, as well as the documents that are referenced in those documents. The public version of the official record does not include any information claimed as CBI. The public version of the official record, which includes printed, paper versions of any electronic comments submitted during an applicable comment period, is available for inspection in the Public Information and Records Integrity Branch (PIRIB), Rm. 119, Crystal Mall #2, 1921 Jefferson Davis Highway, Arlington, VA, from 8:30 a.m. to 4 p.m.,

Monday through Friday, excluding legal holidays. The PIRIB telephone number is (703) 305-5805.

*C. How and to Whom Do I Submit Comments?*

You may submit comments through the mail, in person, or electronically. To ensure proper receipt by EPA, it is imperative that you identify docket control number PF-937 in the subject line on the first page of your response.

1. *By mail.* Submit your comments to: Public Information and Records Integrity Branch (PIRIB), Information Resources and Services Division (7502C), Office of Pesticide Programs (OPP), Environmental Protection Agency, Ariel Rios Bldg., 1200 Pennsylvania Ave., NW., Washington, DC 20460.

2. *In person or by courier.* Deliver your comments to: Public Information and Records Integrity Branch (PIRIB), Information Resources and Services Division (7502C), Office of Pesticide Programs (OPP), Environmental Protection Agency, Rm. 119, Crystal Mall #2, 1921 Jefferson Davis Highway, Arlington, VA. The PIRIB is open from 8:30 a.m. to 4 p.m., Monday through Friday, excluding legal holidays. The PIRIB telephone number is (703) 305-5805.

3. *Electronically.* You may submit your comments electronically by e-mail to: "[opp-docket@epa.gov](mailto:opp-docket@epa.gov)," or you can submit a computer disk as described above. Do not submit any information electronically that you consider to be CBI. Avoid the use of special characters and any form of encryption. Electronic submissions will be accepted in Wordperfect 6.1/8.0 or ASCII file format. All comments in electronic form must be identified by docket control number PF-937. Electronic comments may also be filed online at many Federal Depository Libraries.

*D. How Should I Handle CBI That I Want to Submit to the Agency?*

Do not submit any information electronically that you consider to be CBI. You may claim information that you submit to EPA in response to this document as CBI by marking any part or all of that information as CBI. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. In addition to one complete version of the comment that includes any information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public version of the official record. Information not marked confidential

will be included in the public version of the official record without prior notice. If you have any questions about CBI or the procedures for claiming CBI, please consult the person identified under "FOR FURTHER INFORMATION CONTACT."

#### *E. What Should I Consider as I Prepare My Comments for EPA?*

You may find the following suggestions helpful for preparing your comments:

1. Explain your views as clearly as possible.
2. Describe any assumptions that you used.
3. Provide copies of any technical information and/or data you used that support your views.
4. If you estimate potential burden or costs, explain how you arrived at the estimate that you provide.
5. Provide specific examples to illustrate your concerns.
6. Make sure to submit your comments by the deadline in this notice.
7. To ensure proper receipt by EPA, be sure to identify the docket control number assigned to this action in the subject line on the first page of your response. You may also provide the name, date, and **Federal Register** citation.

#### **II. What Action is the Agency Taking?**

EPA has received a pesticide petition as follows proposing the establishment and/or amendment of regulations for residues of a certain pesticide chemical in or on various food commodities under section 408 of the Federal Food, Drug, and Cosmetic Act (FFDCA), 21 U.S.C. 346a. EPA has determined that this petition contains 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.

#### **List of Subjects**

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

Dated: April 12, 2000.

#### **James Jones,**

Director, Registration Division, Office of Pesticide Programs.

#### **Summary of Petition**

The petitioner summary of the pesticide petition is printed below as required by section 408(d)(3) of the

FFDCA. The summary of the petition was prepared by the petitioner and represents the view of the petitioner. EPA is publishing the petition summary verbatim without editing it 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.

#### **BASF Corporation**

0F6079

EPA has received a pesticide petition 0F6079 from BASF Corporation, Agricultural Products, PO Box 13528, Research Triangle Park, NC 27709 proposing, pursuant to section 408(d) of the Federal Food, Drug, and Cosmetic Act (FFDCA), 21 U.S.C. 346a(d), to amend 40 CFR part 180 by establishing a tolerance for residues of vinclozolin [3-(3,5-dichlorophenyl)-5-methyl-5-vinyl-1,3-oxazolidine-2,4-dione] and metabolites containing the 3,5-dichloroaniline moiety in or on the raw agricultural commodities succulent beans and canola at 2.0, and 1.0 parts per million (ppm) respectively. 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 support granting of the petition. Additional data may be needed before EPA rules on the petition.

#### *A. Residue Chemistry*

1. *Plant metabolism.* BASF Corporation notes that metabolism in plants is understood, the residues of concern are vinclozolin [3-(3,5-dichlorophenyl)-5-methyl-5-vinyl-1,3-oxazolidine-2,4-dione] and metabolites containing the 3,5-dichloroaniline moiety.

2. *Analytical method.* The proposed analytical method involves extraction, hydrolysis, distillation, partition, and derivatization followed by detection of residues by gas chromatography/electron capture detector (gc/ecd). An enforcement method has been published in FDA's Pesticide Analytical Methods, Volume II pg. 876-887.

3. *Magnitude of residues.* Sixteen residue trials were carried out in several major succulent bean producing states; CA, FL, MI, NY, NC, OR, and WI. Residue in the succulent beans ranged from 0.38 ppm to 2.40 ppm and averaged 0.83 ppm.

Four residues trials were carried out in three canola producing provinces of

Canada (Alberta, Manitoba, and Saskatchewan) which accounts for 98% of the canola production in Canada. Residues in the canola seeds ranged from 0.044 ppm to 0.360 ppm and averaged 0.17 ppm.

#### *B. Toxicological Profile*

1. *Acute toxicity.* The acute toxicity studies place technical vinclozolin in acute toxicity category IV for acute oral (LD<sub>50</sub> of greater than 15,000 milligrams kilograms (mg/kg), acute inhalation LD<sub>50</sub> of greater than 29.1 mg/L and dermal irritation (slight), and in category III for acute dermal LD<sub>50</sub> of greater than 2,500 mg/kg and eye irritation (slight). The technical material is a positive skin sensitizer.

2. *Genotoxicity.* A modified Ames test (three studies; point mutation): Negative; Host-Mediated Assay (point mutation): Negative; Mouse Lymphoma Test (point mutation): Negative; *In Vitro* CHO cells (point mutation): Negative; *In Vitro* Cytogenetics-CHO cells (Chromosome Aberrations): Negative; *In Vivo* Dominant Lethal Test-Male NMRI Mouse (Chromosome Aberrations): Negative; Rec Assay (two test; DNA damage and repair): Negative; *In Vitro* unscheduled DNA synthesis (UDS) test using Hepatocyte (DNA damage and repair): Negative; *In Vivo* SCE using Chinese Hamster (DNA damage and repair): Negative. Based on the data present and weight of evidence, BASF concludes that vinclozolin does not pose a mutagenic hazard to humans.

3. *Developmental toxicity*—i. A combination of four developmental studies in rats via oral gavage resulted in dosages of 0, 15, 50, 100, 150, 200, 400, 600, and 1,000 highest dose tested (HDT) mg/kg/day with a developmental toxicity no observed adverse effect level (NOAEL) of 15 mg/kg/day and a maternal toxicity NOAEL equal to or greater than 400 mg/kg/day based on the following:

- a. No obvious signs of maternal toxicity were observed at dose levels less than or equal to 400 mg/kg/day.
- b. An increased number of fetuses with retarded ossification of thoracic vertebral bodies at dose levels greater than or equal to 200 mg/kg/day and increased number of fetuses with soft tissue variations at dose levels greater than or equal to 400 mg/kg/day, both findings are regarded as unspecific embryo/fetotoxic effects indicating transient delays in development but not indicative of a teratogenic effect.
- c. A statistically significant decrease or reduction of the anogenital index (AGI) in males was observed at levels greater than or equal to 50 mg/kg/day.

In a developmental study in rats via dermal exposure for 6 hours/day on intact skin with dosages of 0, 60, 180, and 360 mg/kg/day HDT with a developmental toxicity NOAEL of 60 mg/kg/day and a maternal toxicity NOAEL of 60 mg/kg/day based on the following: Increased absolute liver weights at dose levels greater than 180 mg/kg/day, and decreased anogenital distance and index at dose levels greater than 180 mg/kg/day.

ii. A developmental study in rabbits via oral gavage was conducted with dosages of 0, 20, 80, and 300 mg/kg/day HDT with a developmental toxicity NOAEL of 300 mg/kg/day and a maternal toxicity NOAEL of 300 mg/kg/day based on no signs of maternal or meaningful fetal toxicity at any of the dose levels mentioned.

A second developmental study in rabbits via oral gavage resulted in dosages of 0, 50, 200, and 800 mg/kg/day highest dose tested (HDT) with a developmental toxicity NOAEL of 200 mg/kg/day and a maternal toxicity NOAEL of 50 mg/kg/day based on the following: Severe maternal toxicity with simultaneous change in hematological values changes and high number of abortions at the HDT, and increased absolute and/or relative weights for adrenals in the mid and high dose groups.

4. *Reproductive toxicity.* Two 2-generation reproduction studies in rats were conducted: Study A—dose levels of 0, 2.0, and 4.1 mg/kg/day; Study B—dose levels of 0, 4.9, 30, 96, and 290 mg/kg/day (males) and 0, 5.3, 31, 101, and 290 mg/kg/day (females). The results demonstrated a reproductive NOAEL of 4.9 mg/kg/day based on feminization of males and the ability not to mate at dose levels greater than 100 mg/kg/day and pup effects at 29 mg/kg/day; and with a parental NOAEL of 4.9 mg/kg/day based on general toxicity consistent with previous rat studies at levels greater than 29 mg/kg/day. Study A was performed to clarify an equivocal finding of decreased absolute and relative weight of the epididymides without any morphological correlation in the male FY and FZ generations in Study B. However, EPA stated “the effects at the 4.9 mg/kg/day dose level was minimal and considered sufficiently close to a NOAEL. The study is acceptable and 4.9 mg/kg/day dose level was considered to be the NOAEL.

5. *Chronic toxicity*—i. A 1-year feeding study in dogs fed dosages of 0, 1.1, 2.4, 4.9, and 48.7 mg/kg/day with a NOAEL of 2.4 mg/kg/day based on the following effects:

a. Slight anemia and increased serum bilirubin in the 48.7 mg/kg/day dose group HDT.

b. Increased absolute and/or relative weights for the testes, adrenals, liver, spleen, and thyroids in either the 4.9 or 48.7 mg/kg/day dose groups.

c. A dose-related atrophy of the prostate in the 4.9 and 48.7 mg/kg/day dose groups.

d. Microscopic findings in the adrenal and testes in the 48.7 mg/kg/day dose group and liver findings for both male and female dogs in the 48.7 mg/kg/day dose groups and in the females in the 4.9 mg/kg/day dose group, only.

ii. A combination of two chronic feeding and one carcinogenicity study that were performed separately, resulted in rats being fed combined dosages of 0, 1.2, 2.4, 7.0, 23, 71, 143, and 221 mg/kg/day (males) and 0, 1.6, 3.1, 9.0, 29, 88, 180, and 257 mg/kg/day (females) with a NOAEL of 1.2 mg/kg/day (males) and 1.6 mg/kg/day (females) based on the following effects:

a. Decreased body weights in both males and females at dose levels greater than or equal to 23 mg/kg/day with a progression of severity to the upper dose levels.

b. Cataracts with associative histopathology at dose levels greater than or equal 23 mg/kg/day and lenticular changes at dose levels greater than or equal 7.0 mg/kg/day for male and female rats.

c. Hematological and clinical chemistry value changes at dose levels greater than or equal to 71 mg/kg/day with an increase of severity at the higher doses tested.

d. Increased absolute and/or relative weights for adrenals at dose levels greater than or equal 143 mg/kg/day, for the liver at dose levels greater than or equal 71 mg/kg/day, for the testes at dose levels greater than or equal 23 mg/kg/day, and for the ovaries at dose levels greater than or equal 143 mg/kg/day.

e. Microscopic findings were observed in the liver, adrenal, pancreas, testes, ovaries and uterus at dose levels of greater than or equal to 7.0 mg/kg/day with a progression of severity of histological effects in the upper dose levels.

f. An increased incidence of neoplasms occurred at dose levels greater than or equal to the maximum tolerated dose (MTD) of 23 mg/kg/day in the liver, adrenals, pituitary, prostate, uterus, and ovaries. In the testes (males), neoplasms were seen slightly below the MTD at dose levels greater than or equal 23.0 mg/kg/day due the antiandrogenic nature of vinclozolin.

6. *Oncogenicity.* An oncogenicity study in mice fed dosages of 0, 2.1, 20.6,

432, and 1,225 (HDT) mg/kg/day (males) and 0, 2.8, 28.5, 557, and 1,411 (HDT) mg/kg/day (females) with a NOAEL of 2.1 mg/kg/day (males) and 2.8 mg/kg/day (females) based on the following effects:

i. Increased mortality in the highest dose tested (HTD) as compared to controls.

ii. Decreased body weights and significant signs of clinical toxicity were observed in both males and female mice at the upper two dose levels with a progression of severity, and an equivocal body weight gain decrease at the next lower dose.

iii. Hematological and clinical chemistry value changes were observed at the highest dose tested.

iv. Increased absolute and/or relative weights for adrenals and liver were observed at the upper two dose levels, atrophic seminal vesicles and coagulation glands with reduced size of the prostate and atrophic uteri were observed at the upper two dose levels.

v. Microscopic findings were observed in the liver, adrenal, testes, ovaries and uterus, and related sexual organs were seen in the upper two dose levels.

vi. An increased incidence of neoplasms occurred at dose levels greater than the maximum tolerated dose (28.5 mg/kg/day) in the liver of female mice.

7. *Animal metabolism*—i. *Oral studies.* BASF has submitted results from a number of metabolism studies using Wistar rats. The results of these studies can be summarized as follows: vinclozolin is well absorbed (ca. 85%) and intensively metabolized, the liver playing an important role (ca. 65%) of the radioactivity administered was found in the bile and no unchanged active ingredient was excreted in the urine). Excretion is rapid by both urinary and biliary routes.

ii. *Dermal study.* In an *in vivo* dermal absorption study, male Wistar rats were dosed with <sup>14</sup>C vinclozolin. Dose levels of 0.002, 0.02, 0.2, and 2.0 mg/cm were administered to 24 rats per dose level, applied to a shaved area of approximately 13 cm<sup>2</sup> on the back of the rat. Groups of 4 rats were sacrificed at 0.5, 1, 2, 4, 10, or 72 hours following application of the dose. Urine and feces were collected during this period. At the end of the exposure period (10 hours in the case of the 72 hour treatment group), the skin site was washed with cotton swabs moistened with water. A blood sample was taken prior to sacrifice. The treated skin along with the gastrointestinal tract, liver, kidneys, adrenals, testes, eyes, brain and carcass were subjected to radioactive mass

balance analysis. Urine from the bladder was added to the voided samples. Results of this analysis showed recoveries of between 81.6% to 104%. The lowest dose of 0.002 mg/cm<sub>2</sub> from the 10-hour exposure period is considered to be the most appropriate dose for use in the occupational risk assessment, as this dose most closely approximates the dermal deposition results obtained in the worker exposure studies. After the 10-hour exposure, the total percent absorbed at this dose level was 29.1%.

Percutaneous absorption of <sup>14</sup>C-vinclozolin was also assessed *in vitro* using rat and human epidermis in flow-through diffusion cells. The test substance was applied at two dose levels, 200 µg/cm<sub>2</sub> (high) and 2 µg/cm<sub>2</sub> (low), and assessed over 24 hours. A total of 32 samples (16 rat and 16 human) were used at the high dose level, and 34 (17 rat and 17 human) at the low dose level. Samples of human skin were obtained at postmortem. Human epidermis was prepared from full thickness skin by immersion in water at 60 °C for 1 minute. Rat epidermis was prepared by soaking the skin in 2M sodium bromide for approximately 24 hours. With respect to the worker exposure relevant time of 8 hours, penetration through human skin was 16.7 times less at the high dose tested and 4.2 times less at the low dose tested than through rat skin.

8. *Endocrine disruption.* A series of mechanistic studies were performed to elucidate and define the anti-androgenic properties of vinclozolin. The following conclusions can be drawn from the *in vivo* data: The anti-androgenic effects observed are not related to an inhibition of androgen-steroid hormone synthesis. The anti-androgenic effects are not related to an inhibition of 5 alpha-reductase activity. The anti-androgenic effects are a result of a competitive binding to the androgen receptor resulting in an inactivation of this receptor. The anti-androgenic effects are mediated by the hydrolysis metabolites M1 and/or M2 and probably not by vinclozolin or the main metabolite, R8. M2 is a slightly more potent anti-androgen than M1; however, M2 concentrations are very low and the compound may not contribute much to the *in vivo* effects.

Vinclozolin is known to be an anti-androgenic agent; thus, the consequence of hormonal imbalance are two-fold; the primary anti-androgenic effect is a suppression in androgen target organs such as epidymides, prostate or seminal vesicle, whereas stimulation is seen in organs involved in steroid hormone synthesis (testes, adrenals, ovaries).

Target organs for hormones must be able to respond to changes in physiological levels of hormones, which can fluctuate significantly as evidenced by the hormone changes during the female estrus cycle. It was indeed demonstrated that changes induced in these organs were reversible when hormone levels return to normal concentrations. It is only when hormone imbalance continues over a long time that irreversible changes occur.

In the case of suppression the affected organ is forced into a hypofunctional state. Progressively, the organ becomes hypotrophic and hypoplastic. With stimulation on the other hand the initial changes can be described as hyperfunction, hypertrophy and hyperplasia. As mentioned before, it is only when the hormonal imbalance continues over a long time that the ultimate reversible adaptation of the affected organ (hypoplasia or hyperplasia) is still not sufficient to handle the situation and only then an irreversible transition takes place. In the case of hormonal suppression, atrophy is the ultimate consequence, in the case of stimulation, the ultimate consequence are tumors in the affected organs. It is thus plausible that at dose levels which do not result in hypertrophy/hyperplasia or hypotrophy/hypoplasia, the ultimate consequence of these adaptive changes, i.e. tumors or atrophy, respectively, cannot occur. For risk assessment purposes this mode of action offers the possibility to determine a threshold for both tumor formation and atrophy by histopathological examination of the hyper- or hypo-functional organ. Thus, at dose levels which do not affect these organs, a mechanistic NOAEL can be defined and risk assessment can be carried out using assessment or safety factors.

The increase in neoplasia observed in the adrenals, ovaries and uterus were only seen in female rats at the highest dose levels. As determined by BASF and EPA, the 71 mg/kg/day dose level of the rat chronic/oncogenicity toxicity study exceeded the criteria for a MTD. Therefore, the physiological status of the animals may be deteriorated in such a way that low dose extrapolation of results obtained at this dose level is not possible. Similarly, the liver tumors arising in the mouse oncogenicity study were observed only at the 1,411 mg/kg/day dose level (in which severe body weight losses and significant mortality were observed) which clearly exceeded the MTD (as determined by BASF and EPA - Cancer Peer Review Document, September 1996) and therefore are not relevant for risk assessment purposes.

Additionally, vinclozolin is not a genotoxic agent and mechanistic studies have shown the increased incidence of liver tumors in male rat and female mice is a result of liver tumor promoting properties of the test substance. Vinclozolin is not an initiator of the carcinogenic event. Based on the available data, the mechanism of promotion is the induction of liver cell proliferation of the test substance. The data available also indicate that dose levels which do not induce liver toxicity also do not induce cell proliferation nor enhance the carcinogenic process. Therefore, BASF concludes that a threshold for liver carcinogenicity can be defined to be at least 143 mg/kg/day in the rat and at least 557 mg/kg/day in the mouse.

Concerning the testicular tumors (Leydig cell tumors), results of the long-term studies with vinclozolin demonstrate that hormone-related carcinogenesis was only observed in rats, and with the exception of Leydig cell tumors only at dose levels which exceeded the MTD criteria. The relevance of Leydig cell tumors to men should be seen in the light that this is a very rare human tumor and that the precursor change (i.e. Leydig cell hyperplasia) has not been observed in patients treated with flutamide. In addition, the toxicology of cimitidine, an H<sub>2</sub>-receptor antagonist with anti-androgenic properties results in a size reduction and atrophy of the prostate and seminal vesicles in chronic rat studies. Moreover, an increase in benign Leydig cell tumors, and a decrease in pituitary and mammary tumor incidence were noted; hence a toxicity potential not unlike that of vinclozolin is evident. Despite the fact that over 30 million patients have been treated with cimitidine, this therapeutic agent has been demonstrated to be extremely safe, clearly indicating that the rat Leydig cell tumors have very little relevance for humans. A similar conclusion is drawn by other investigators "Leydig cell tumors of the rat have limited significance because of the fundamental differences in testicular control mechanisms." It is therefore concluded that the observed neoplastic changes do not pose a relevant hazard to humans. EPA in the September 1996, Cancer Peer Review Document, came to the same basic conclusion that the Leydig cell tumors are a very uncommon tumor type in humans which implies the threshold dose for humans would be greater than for rats. EPA based this conclusion on the work performed by Dr. Charles C. Capen (Professor Charles C. Capen, Leydig Cell Tumors:

Pathology, Physiology, and Mechanistic Considerations in Rats, The Toxicology Forum, 1994 Annual Summer Meeting, p. 110).

Consistent with the data and the advice of the OPP Scientific Advisory Panel and using its Guidelines for Carcinogen Risk Assessment published September 24, 1986 (51 FR 33992), EPA has classified vinclozolin as a Group C chemical-possible human carcinogen. The Agency Cancer Peer Review Committee (CPRC) chose a non-linear approach margin (MOE) based on a NOAEL of 4.9 mg/kg/day for hormone-related effects decreased epididymal weight at 30 mg/kg/day in the 2-generation oral rat reproductive toxicity study to quantify human risk. The MOE approach was chosen because the remaining tumors (Leydig cell) were benign at dose levels which were not considered to be excessive.

### C. Aggregate Exposure

1. *Dietary exposure.* The established reference dose (RfD) for vinclozolin is based on a 2-year feeding study in rats with a threshold NOAEL of 1.2 mg/kg/day. Using an uncertainty factor of 100, the RfD is calculated to be 0.012 mg/kg/day.

i. *Food—a. Acute risk.* EPA has expressed concern for acute dietary risk in the draft RED for the subgroup population-women of childbearing age (13 years and older) due to the hormonal effects of vinclozolin. In response to this concern, BASF requested that ENVIRON, conduct an acute dietary analysis for vinclozolin that used the current consumption data and exposure models capable of calculating a real world estimates of potential exposure to residues in food.

The acute exposure analysis, utilized the principles of Tier 1 and Tier 3 analyzes presented to the FIFRA Science Advisory Panel in September 1995, and subsequently implemented by OPP/EPA. Using appropriate methodology, available residue distribution data, and percent crop treated information it was determined the margin of exposure to the most sensitive sub-population exceeded 1,000 (the value currently being used by the Agency for this compound) at the very conservative 99.9th percentile of the population; when all crops having tolerances; plus succulent beans, and canola, and cranberries were included in the analysis. The margin of exposure at the 99.9th percentile was determined to be approximately 1,100 for women of childbearing age.

b. *Chronic.* In its review granting a temporary tolerance for vinclozolin in succulent beans in October 1997, for

purposes of assessing the potential chronic dietary exposure (food only) from the use of vinclozolin, EPA used the percent of crop treated/percent imported data to refine the risk estimates for selected commodities (apricots, beans, raspberries, cherries, cucumbers, lettuce, nectarines, onions, peaches, peppers, and strawberries), while other commodities were assumed to be 100% treated/imported (caneberries (other than raspberries), cranberries, endive, garlic, wine/sherry, kiwifruit, and shallots). No chronic anticipated residue refinement has been performed. Therefore, the resulting exposure (food only) estimates should be viewed as partially refined; further refinement using anticipated residues and additional percent of crop treated/percent imported data would result in lower chronic dietary exposure estimates. The Anticipated Residue Contribution (ARC) for chronic dietary exposure estimates is equivalent to 12% of the RfD for the U.S. population (48 states). The ARC for infants and children and other subgroups ranged from 7 to 15% of the RfD. The incremental risk associated with canola will not significantly change this assessment.

In addition, BASF has performed a more refined analysis of chronic dietary risk and finds that when market share and average residues are considered, no sub-population in the United States is exposed to over 1% of the RfD.

BASF concurs with the SAP and believes vinclozolin should be regulated under the margin of safety (MOS) approach for non-threshold effects. BASF has calculated the MOS for food and water using the Agency's conservative assessments discussed above. The MOS was calculated against a NOAEL of 4.9 mg/kg/day for hormone-related effects (decreased epididymal weight at 30 mg/kg/day) in the 2-generation oral rat reproductive toxicity study to quantify human risk. The resulting MOS for food is over 900,000.

ii. *Drinking water.* Exposure to vinclozolin for the general population to residues of vinclozolin are residues in drinking water and exposure from non-occupational sources. For drinking water, based on the available environmental fate data, BASF does not anticipate routine exposure to residues of vinclozolin in drinking water. There is no established maximum concentration level (MCL) or health advisory level (HAL) for vinclozolin under the Safe Drinking Water Act (SDWA).

In its 1997 assessment, EPA calculated drinking water exposure from extremely conservative models. For

chronic exposure, EPA calculated a level of 1 parts per billion (ppb). Using standard EPA assumptions consumption of water containing 1 ppb would consume less than 2% of the RfD in the most exposed subgroup (children 1 to 6). BASF believes this estimate to be very conservative and is currently analyzing the available data to determine a more realistic value for drinking water exposure.

2. *Non-dietary exposure.* Vinclozolin is included in a number of formulations used for professional treatment of golf-courses (tees, greens and collars only) and turf. The turf use is limited to non-residential uses. BASF believes that these uses do not contribute significantly to the aggregates risk.

### D. Cumulative Effects

BASF has considered the potential for cumulative effects of vinclozolin and other substances that have a common mechanism of toxicity. BASF is aware of two other substance active ingredients which are structurally similar, iprodione and procymidone. However, BASF believes that consideration of a common mechanism of toxicity is not appropriate at this time. This conclusion was similarly drawn by Rhone-Poulenc the manufacturer of iprodione in a recent Notice of Filing for that compound.

The Agency has previously noted both structural and toxicological similarities between iprodione, procymidone, and vinclozolin. BASF believes that there are clear differences in both the type and magnitude of effects observed after exposure to vinclozolin when contrasted with iprodione. BASF believes that there is no reliable data to indicate cumulative effects should be considered in reference to iprodione. As to procymidone, BASF is unaware of any conclusive data that would indicate a common mode of action with procymidone. It should also be noted that procymidone's tolerances are limited to grapes grown for wine production outside the United States.

EPA has expressed concern regarding a common metabolite of these three compounds, 3,5-dichloroaniline (3,5-DCA). Under FQPA, EPA is also required to estimate the risk for consumption of food and water containing 3,5-DCA across vinclozolin, iprodione, and procymidone. There is no toxicological data base; thus no RfD or Q1\* for 3,5-DCA. However, EPA has used the Q1\* for p-chloroaniline (PCA) to assess the carcinogenic risk for other structurally-related chloroanilines because EPA does not have any evidence that 3,5-DCA is not

carcinogenic. In 1988, the Q1\* for PCA was estimated to be 0.039 (mg/kg/day)<sup>-1</sup>. However, a revised Q1\* of 0.059 (mg/kg/day)<sup>-1</sup> for PCA has been used for this assessment based on more recent data on male and female tumors.

At the time of the risk assessment done for vinclozolin time-limited tolerances, EPA concluded that the risk associated with 3,5-DCA was negligible. Since that time, BASF has cancelled uses in strawberries and stone fruit which will further reduce the theoretical risk. BASF does not believe it is appropriate to assume that 3,5-DCA should be regulated as an oncogen. The Agency has relied on the simple fact that PCA and DCA are structurally similar and are likely to behave similarly in animal systems for that reason alone. While both compounds are anilines and both have chlorine moieties they differ significantly in terms of electron density distribution, which is the single most important factor in the determination of how a molecule behaves in chemical and biochemical systems. BASF has presented this and other information to the Agency and awaits their response.

#### E. Safety Determination

1. *U.S. population.* Using the exposure assumptions described above and the completeness and the reliability of the toxicity data, BASF has estimated that aggregate exposure to vinclozolin will utilize less than 1% of the RfD for the US population. EPA generally has no concern for exposure below 100% of the RfD. Therefore, based on the completeness and reliability of the toxicity data, and the exposure assessment discussed above, BASF concludes that there is a reasonable certainty that no harm will result from aggregate exposure to residues of vinclozolin.

2. *Infants and children.* Based on the completeness of vinclozolin's toxicological data base and the risk assessment information cited above BASF believes the RfD used to assess safety to children should be the same as that for the general population, 0.012 mg/kg/day. BASF concluded that the most sensitive child population group is that of children ages 1 to 6. BASF has calculated that the exposure (food and water) to this group to be less than 1% of the RfD for all uses including those proposed in this document. Therefore, based on the completeness and reliability of the toxicity data, and the exposure assessment discussed above, BASF concludes that there is a reasonable certainty that no harm will result to infants and children from

aggregate exposure to residues of vinclozolin.

#### F. International Tolerances

A maximum residue level for succulent beans has not been established for vinclozolin by the Codex Alimentarius Commission.

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### ENVIRONMENTAL PROTECTION AGENCY

[FRL-6483-5]

#### Draft General NPDES Permit for Seafood Processors in Alaska in Waters of the United States; General NPDES Permit No. AK-G52-0000

**AGENCY:** Environmental Protection Agency, Region 10.

**ACTION:** Notice of Draft General NPDES Permit.

**SUMMARY:** The Director, Office of Water, EPA Region 10, is proposing to reissue general National Pollutant Discharge Elimination System (NPDES) permit no. AK-G52-0000 for seafood processors in Alaska pursuant to the provisions of the Clean Water Act (CWA) 33 U.S.C. 1251 *et seq.* The proposed general NPDES permit will authorize discharges from off-shore and near-shore vessels and shore-based facilities engaged in the processing of fresh, frozen, canned, smoked, salted and pickled seafoods. The proposed permit will also authorize discharges from off-shore vessels (operating more than one nautical mile from shore at MLLW) that are engaged in the processing of seafood paste, mince or meal, as well as fresh, frozen, canned, smoked, salted and pickled seafoods. The proposed permit will authorize discharges of processing wastes, process disinfectants, sanitary wastewater and other wastewaters, including domestic wastewater, gray water, cooling water, boiler water, fresh water pressure relief water, refrigeration condensate, water used to transfer seafood to a facility, and live tank water. The proposed permit will authorize discharges to waters of the United States in and contiguous to the State of Alaska, except for receiving waters excluded from coverage as protected, special, at-risk, degraded waters, or as waters adjacent to the City of Kodiak or the Pribilof Islands (and covered by general permits specific to each of these areas).

The proposed general NPDES permit for seafood processors in Alaska will not authorize discharges from near-shore or shore-based seafood processors of mince, paste or meal (operating one

nautical mile or less from shore at MLLW). The proposed permit will not authorize discharges of petroleum hydrocarbons, toxic pollutants, or other pollutants not specified in the permit.

This is the fourth reissuance of a general permit for seafood processors in Alaska. While the general permit for seafood processors issued in 1995 contained numerous substantial changes, the proposed 2000 permit contains one major change. The major new provision in the proposed general permit is a limit on the total annual load of settleable solid seafood processing waste. The total allowable residues of offal for permittees covered under the proposed permit must not exceed eight million pounds per year (based on deposition modeling using EPA's Water Quality Analysis Simulation Program).

Other minor changes in the proposed permit clarify requirements of the Notice of Intent to be covered and give specific schedules for submitting sea floor monitoring surveys. EPA anticipates that the State of Alaska Department of Environmental Conservation will certify a 100 foot mixing zone for all discharges and zone of deposit of one acre for near-shore and shore-based dischargers.

A draft NPDES permit, fact sheet and other documents of the administrative records are available upon request.

Public Notice Issuance Date: April 28, 2000

Public Notice Expiration Date: June 12, 2000

#### Public Comments

Persons wishing to comment on the tentative requirements and conditions contained in the proposed general permit may do so before the expiration date of the public notice. EPA appreciates both supportive and critical comments in this public review and comment period. All persons, including applicants, who believe any condition of a draft permit is inappropriate or that the Director's tentative decision to prepare this draft permit is inappropriate, must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period. Any supporting materials which are submitted shall be included in full and may not be incorporated by reference, unless they are already part of the administrative record or are a generally available document or reference. All written comments must include the name, address, and telephone number of the commenter and must be submitted to EPA to the attention of Burney Hill