Update Propazine

Acceptable Name: Propazine

Pesticide Reg. Sec. 180.243

Structure: See original entry

Other names: 2-chloro-4,6-bis(isopropylamino)-s-triazine, Milogard, Gesamil, Primatol P, Milocep, G-30028
CAS 139-40-2

Petitioner: Ciba-Geigy Corporation, Greensboro, N.C. 27409

Method A: Change Method A to Method II - See Simazine Method II, add pecans, sorghum
Method B: Change Method B to Method I - See Simazine Method I
Method III: See Simazine Method III

Method IV: AG-281 "Determination of 2,4-diamino-6-chloro-s-triazine (G-28273) Residues in Crops and Animal Tissue by Gas Chromatography" 3/5/75
(This method is for the metabolite common to atrazine, propazine and simazine.)

Pesticide Petition: PP2F2618

Product application: all crops, animal tissue

Detection limit: 0.1 ppm

Method trial report: MTO Report dated 9/20/83 and Reviewer's comments dated 10/7/83.
1.0 SCOPE

This method describes the procedure for determining residues of G-28273 (2,4-diamino-6-chloro-s-triazine) in or on crops and animal tissue resulting from the application of chloro-s-triazine herbicides. The limit of sensitivity is 0.10 ppm.

![Chemical Structure](image)

G-28273

2.0 PRINCIPLE

G-28273 residues in crops or animal tissue are extracted by blending the finely chopped crop material or animal tissue with a methanol/water mixture. The methanol/water extract from animal tissue is further washed with n-hexane to remove oily materials. The methanol/water extract is then taken to dryness. G-28273 is then separated from the majority of crop and animal tissue co-extractives by liquid-liquid partition chromatography using a pH 7.0 buffer as the stationary phase and hexane-ether mixtures as the mobile phases. The G-28273 is finally eluted from the column with ethyl ether. G-28273 is quantitated by a gas chromatograph equipped with a Dohrmann microcoulometric detector in the chloride-specific mode or a Coulson electrolytic conductivity detector in the nitrogen-specific mode.

3.0 REAGENTS

3.1 Methanol: Absolute, reagent
3.2 Hexane: Practical
3.3 Ethyl Ether: Anhydrous, reagent
3.4 Ethyl Alcohol: Absolute, reagent
MEMORANDUM

Subject: PP 2F2618. Propazine on sorghum. Method Trial Results.

From: Martha J. Bradley, Chemist
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

Thru: Charles L. Trichilo, Chief
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

To: Robert Taylor, PM 25
Registration Division (TS-767)

and

Toxicology Branch
Hazard Evaluation Division (TS-769)

The results of the method trial for the metabolite 2,4-diamino-6-chloro-s-triazine (G-28273) in sorghum grain and beef liver have been reported.

Recoveries from sorghum grain at 0.1 and 0.2 ppm were 80% and from beef liver were 74 and 79% at the same fortification levels.

The method was conducted as written for sorghum, however, the sample size for liver was reduced to allow for faster cleanup. Difficulty was experienced in getting the proper separation using the liquid-liquid column chromatography. Practice in packing the column resulted in successful separation in a reasonable time. The GC column packing was also changed to HiEf on 100/120 Gas Chrom Q because the original column degraded too rapidly at the required operating temperature.

We conclude that an adequate method is available for the determination of the G-28273 metabolite of the S-triazines.
The remaining deficiency in this petition is the submission of a food additive tolerance proposal for 6 ppm on sweet sorghum syrup.

Recommendation

We recommend for the proposed tolerances provided the petitioner submits the appropriate food additive tolerance proposal for sweet sorghum syrup and provided TOX concurs.

cc: R.F., MJBradley, TOX, PP#2F2618, Circ., FDA
RDI:Section Head:RSGuick:Date:10/5/83:RDSchmitt:Date:10/5/83
September 20, 1983

MEMORANDUM

TO: Martha J. Bradley, Chemist
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

THRU: Warren R. Bontoyan, Section Head
Analytical Chemistry Laboratory
Chemical Operations Branch (TS-769)

THRU: Donald A. Marlow, Chief
Chemical Operations Branch (TS-768C)

SUBJECT: PP 2F2618 Propazine on Sorghum Method Trial For The
Analysis of Metabolite G-28273 (2,4-diamino-6-chloro-
s-triazine) Fortified, in Duplicate, in Both
Sorghum Grain and Beef Liver

Chemical Operations Branch was requested by Residue Chem-
istry Branch, Hazard Evaluation Division, to conduct a method
trial on the propazine metabolite 2,4-diamino-6-chloro-s-
triazine. Propazine is a product of Ciba-Geigy Corporation.

The procedure to be used was petitioners method AG-281
titled "Determination of 2,4-Diamino-6-Chloro-s-Triazine
(G-28273) Residues in Crops and Animal Tissue by Gas Chro-
matography", and dated 3-5-75. Fortification of sorghum and
beef liver at 0.01 and 0.2 ppm was to be completed.

For sorghum and beef liver the method calls for a methanol/
water (90/10) extraction followed by an aliquot sampling of the
resultant extract. The extract is washed with hexane and the
methanol/water phase remaining is taken to dryness. G-28273 is
then separated from the majority of crop and animal tissue
coo-extractives by liquid-liquid partition column chromato-
graphy using a pH 7.0 buffer (McIlvaines Buffer) supported on Hyflo-
Super-Cel as the stationary phase. Hexane, hexane-ethyl ether,
Table I
Method Trial - Propazine Metabolite G-28273
(2,4-Diamino-6-Chloro-s-Triazine)

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<th>Recovery %</th>
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End
Of
Document
Page ____ is not included in this copy.
Pages ___ through ___ are not included in this copy.

The material not included contains the following type of information:

___ Identity of product inert ingredients.
___ Identity of product impurities.
___ Description of the product manufacturing process.
___ Description of quality control procedures.
___ Identity of the source of product ingredients.
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___ Information about a pending registration action.
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R102953

Chemical: Propazine

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HED File Code: 11500 Petition Files Chemistry
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