OPP OFFICIAL RECORD
HEALTH EFFECTS DIVISION
SCIENTIFIC DATA REVIEWS
EPA SERIES 361

(5) I

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

MEMORANDUM

Date: 8/31/05

Subject: Propazine TRED - Report on the FQPA Tolerance Reassessment Progress and Interim Risk Management Decisions. Product Chemistry Considerations. Case 0230

DP Barcode: D308536
PC Code: 080808

From: José J. Morales, Chemist
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To: Diane Sherman, Chemical Review Manager
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Registration Action Branch 1
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This document was originally prepared under contract by Dynamac Corporation (20440 Century Boulevard, Suite 100; Germantown, MD 20874; submitted 07/13/2005). The document has been reviewed by the HED and revised to reflect current OPP policies.

Executive Summary

Propazine (2-chloro-4,6-bis (isopropylamino)-s-triazine) is a member of the chlorotriazine class of herbicides, which also includes atrazine, cyanazine, and simazine. Propazine is a selective herbicide that may be applied before planting, at planting, and after crop emergence for the preemergence control of annual broadleaf weeds. Currently, the only registered uses are for weed control of ornamental plants grown in containers under greenhouse conditions. There are presently no registered food/feed uses of propazine.

Propazine is a FIFRA List A reregistration chemical. The Propazine Reregistration Standard dated 5/19/87, required that previously submitted product chemistry data be updated because new requirements had been introduced. At the time of the Reregistration Standard, four technical products were registered to Ciba-Geigy Corporation, Griffin Corporation, Drexel Chemical Company, and Industria Prodotti Chimici S.p.A. Currently a single technical product is registered to Griffin, L.L.C.

Most of the product chemistry data requirements for the Griffin 98% propazine T are satisfied; however, additional data are required concerning UV/visible absorption (OPPTS 830.7050) of the TGAI/PAI. Provided that the registrant submits the data required in the attached data summary table for the propazine T/TGAI, and either certifies that the suppliers of beginning materials and the manufacturing process for this T/TGAI have not changed since the last comprehensive product chemistry review or submits a complete updated product chemistry data package, the Agency has no objections to renewing the reregistration of propazine as required under FQPA with respect to product chemistry data requirements.

Product Chemistry Deficiencies

Additional data are required concerning UV/visible absorption (OPPTS 830.7050) for the Griffin 98% propazine T (EPA Reg. No. 1812-363).

Background

Identification of Active Ingredient

The PC code and nomenclature of propazine are presented in Table 1. The physicochemical properties of propazine are listed in Table 2.

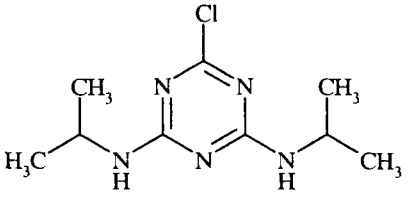
TABLE 1. Propazine Nomenclature	
PC Code 006308	
Chemical structure	

TABLE 1. Propazine Nomenclature	
Common name	Propazine
Molecular Formula	$C_9H_{16}N_5Cl$
Molecular Weight	229.7
IUPAC name	6-chloro-N^2,N^4-di-isopropyl-1,3,5-triazine-2,4-diamine
CAS name	2-chloro-4,6-bis(isopropylamino)-1,3,5-triazine OR 6-chloro-*N*,*N*'-bis(1-methylethyl)-1,3,5-triazine-2,4-diamine
CAS #	139-40-2

TABLE 2. Physicochemical Properties of Propazine		
Parameter	Value	Reference
Melting point	217.7 °C	RD D219079, 9/26/95, S. Malak
pH	5.66	
Density, bulk density, or specific gravity	0.46 g/mL	
Water solubility	3.8 ppm at 25 °C	
Solvent solubility (at 25 °C)	14,252 ppm in acetone 4,696 ppm in 1-octanol	
Vapor pressure	2.9 x 10^{-8} mm Hg at 20 °C 2.98 x 10^{-5} Torr at 45 °C	Product Chemistry Chapter of the Propazine Reregistration Standard, 5/19/87 RD D219079, 9/26/95, S. Malak
Dissociation constant, pK	Not applicable; practically insoluble in water.	RD D219079, 9/26/95, S. Malak
Octanol/water partition coefficient	P = 1234.7 Log P = 3.08	
UV/visible absorption spectrum	Not available	

Manufacturing-use Products

A search of the OPPIN product listing conducted 5/05 identified a single manufacturing-use product (MP) registered under PC Code 080808: the Griffin, L.L.C. 98% T (EPA Reg. No. 1812-363). Only the Griffin 98% T/TGAI is subject to a reregistration eligibility decision.

830.1550-7950 Product Chemistry Data Requirements

The current status of the product chemistry data requirements for the Griffin 98% T is presented in the attached data summary table. Refer to this table for a listing of the outstanding product chemistry data requirements.

Case No. 0230
PC Code 080808

Case Name: Propazine
Registrant: Griffin, L.L.C.
Product(s): 98% T (EPA Reg. No. 1812-363)

PRODUCT CHEMISTRY DATA SUMMARY

Guideline Number	Requirement	Are Data Requirements Fulfilled? [1]	MRID Number [2]
830.1550	Product identity and composition	Y	**43512901**, CSF 8/1/95 [3]
830.1600	Description of materials used to produce the product	Y	**43512901**
830.1620	Description of production process	Y	**43512901**
830.1670	Discussion of formation of impurities	Y	**43512901**
830.1700	Preliminary analysis	Y	**43510104**
830.1750	Certified limits	Y	**43510104**, CSF 8/1/95 [3]
830.1800	Enforcement analytical method	Y	**43510105-43510109**
830.6302	Color	Y	**43510103**
830.6303	Physical state	Y	**43510103**
830.6304	Odor	Y	43840501 [4]
830.6313	Stability to normal and elevated temperatures, metals, and metal ions	Y	45912801 [5]
830.6314	Oxidation/reduction: chemical incompatibility	Y	**43510103**
830.6315	Flammability	N/A [6]	
830.6316	Explodability	Y	**43510103**
830.6317	Storage stability	Y	43840501 [4]
830.6319	Miscibility	N/A [6]	
830.6320	Corrosion characteristics	Y	**43510103**
830.7000	pH	Y	**43510103**
830.7050	UV/visible absorption	N	
830.7100	Viscosity	N/A [6]	
830.7200	Melting point/melting range	Y	**43510103**
830.7220	Boiling point/boiling range	N/A [6]	
830.7300	Density/relative density/bulk density	Y	**43510103**
830.7370	Dissociation constants in water	N/A [7]	**43510103**
830.7550	Partition coefficient (n-octanol/water), shake flask method	Y	**43510103**
830.7840	Water solubility: column elution method; shake flask method	Y	**43510103**
830.xxxx	Solvent solubility	Y	**43510103**
830.7950	Vapor pressure	Y	**43510103**

[1] Y = Yes; N = No; N/A = Not Applicable.

[2] **Bolded** references were reviewed by the Registration Division (RD) under D219079, 9/26/95, S. Malak, and all other references were reviewed as noted.

[3] RD D218372, 8/22/95, S. Malak.

[4] RD D221337, 12/8/95, S. Malak.

[5] RD D290163, 10/9/03, S. Mathur.

[6] Data are not required because the T/TGAI is a solid at room temperature.

[7] Data are not required because the TGAI is practically insoluble in water.

BIBLIOGRAPHY

Study Citations

43510103 Dowler, C. (1994) Technical Propazine: Product Chemistry Data: Lab Project Number: 94-002. Unpublished study prepared by Griffin Corp. 30 p.

43510104 Dowler, C. (1994) Technical Grade Propazine: Analysis and Certification of Product Ingredients: Lab Project Number: 94-002: P94-002. Unpublished study prepared by Griffin Corp. 39 p.

43510105 Dowler, C. (1994) Griffin Analytical Method TM-1103: Propazine in Technical Product by Megabore GLC: Lab Project Number: P94-002. Unpublished study prepared by Griffin Corp. 23 p.

43510106 Dowler, C. (1994) Griffin Analytical Method TM-1110: Hydroxy Propazine in Technical Propazine by HPLC: Lab Project Number: P94-002. Unpublished study prepared by Griffin Corp. 22 p.

43510107 Dowler, C. (1994) Griffin Analytical Method TM-1080: Intentially Added Ingredient X in Technical Propazine by HPLC: Lab Project Number: P94-002. Unpublished study prepared by Griffin Corp. 29 p.

43510108 Dowler, C. (1994) Griffin Analytical Method TM-1101: Propazine Impurities by Megabore GLC: Lab Project Number: P94-002. Unpublished study prepared by Griffin Corp. 55 p.

43510109 Dowler, C. (1994) Griffin Analytical Method TM-1102: Sodium Chloride in Technical Propazine by ICP: Lab Project Number: P94-002. Unpublished study prepared by Griffin Corp. 20 p.

43512901 McCain, P. (1994) Technical Propazine: Product Chemistry: (Product Identity and Composition): Lab Project Number: PC-94-016. Unpublished study prepared by Ciba-Geigy Corp. 168 p.

43840501 Dowler, C. (1995) Technical Propazine: One Year Storage Stability Assay: Lab Project Number: 94-005. Unpublished study prepared by Griffin Corp. 17 p.

45912801 Anderson, W. (2002) Product Chemistry: Technical Grade Product: Propazine Technical: Final Report: Lab Project Number: 7023-02. Unpublished study prepared by Stillmeadow, Inc. 11 p.

Agency Memoranda Citations

DP Barcode(s):	RD D219079
Subject:	Registration Division/Registration Support Branch/Product Chemistry Review Section Transmittal/Product Chemistry Review of a Registration Action for a Technical Grade Active Ingredient. Reg/File Symbol No.: 1812-GAG; Chemical Name: 080808 2-Chloro-4,6-bis(isopropylamino-s-triazine; Common Name: Propazine; CAS Registry No.: 139-40-2.
From:	S. Malak
To:	R. Taylor and T. Stowe
Dated:	9/26/95
MRID(s):	43510103-43510109 and 43512901

DP Barcode(s):	RD D218372
Subject:	Product Chemistry Review of Technical; Reg./File Symbol No.: 1812-GAG; Product Name: 080808 Propazine Technical, CAS #139-40-2; Applicant: 001812 Griffin Corporation.
From:	S. Malak
To:	R. Taylor/T. Stowe
Dated:	8/22/95
MRID(s):	None

DP Barcode(s):	RD D221337
Subject:	Registration Division/Registration Support Branch/Product Chemistry Review Section Transmittal/Product Chemistry Review of a Registration Action for a Technical Grade Active Ingredient. Reg/File Symbol No.: 1812-GAG; Chemical Name: 080808 2-Chloro-4,6-bis(isopropylamino-s-triazine; Common Name: Propazine; CAS Registry No.: 139-40-2.
From:	S. Malak
To:	R. Taylor and T. Stowe
Dated:	12/8/95
MRID(s):	43840501

DP Barcode(s):	D290163
Subject:	Product Chemistry Review of TGAI/MP. Reg. No.: 1812-363; Product Name: Propazine Technical; Company: Griffin LLC.
From:	S. Mathur
To:	J. Tompkins/J. Gilchrist
Dated:	10/9/03
MRID(s):	45912801

13544

R115256

Chemical:	**Propazine**
PC Code:	**080808**
HED File Code	**14000 Risk Reviews**
Memo Date:	**08/31/2005**
File ID:	**DPD308596**
Accession Number:	**412-06-0006**

HED Records Reference Center
10/06/2005