



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

NOV 10 1988

OFFICE OF  
PESTICIDES AND TOXIC SUBSTANCES

Product Chemistry Review on New Chemicals  
EPA Registration No. 100-632

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Registrant: Ciba-Geigy Corporation

EPA Registration No.: 100-632

MRID Nos.: 405949-00, -01, -02, and -03

Pesticide Chemical Code: 121301

CAS Registry No.: 66215-27-8

Product Name: Technical Cyromazine

Chemical Name (Active Ingredient): N-Cyclopropyl-1,3,5-triazine-2,4,6-triamine

Common/Trade Name: Cyromazine

Use: Insecticide

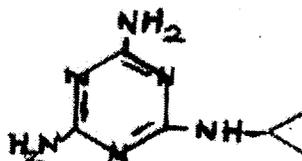
Introduction

This submission is part of a manufacturing-use product (MP) application for a product which contains cyromazine as the active ingredient (ai). All applications for MPs are required to fulfill the product chemistry data requirements relative to MPs as described in Section 158.120 of Title 40 of the Code of Federal Regulations.

Product Identity and Composition

61-1 - Product Identity and Disclosure of Ingredients

Cyromazine is the ai in the MP Technical Cyromazine produced by Ciba-Geigy Corporation.



N-Cyclopropyl-1,3,5-triazine-2,4,6-triamine

Common Name: Cyromazine

Empirical Formula: C<sub>6</sub>H<sub>10</sub>N<sub>6</sub>

Molecular Weight: 166.19

Company Code No.: CGA-72662

Trade Names: Larvadex®, Trigard®

CAS Registry No.: 66215-27-8

Information on the identity of the impurities in the MP is given in the Confidential Statement of Formula (CSF) for Technical Cyromazine.

No additional information is needed for this section.

61-2 - Description of Beginning Materials and Manufacturing Process

Refer to Confidential Appendix A for a description of the beginning materials and manufacturing process.

No additional data are required for this section.

2

61-3 - Discussion of the Formation of Impurities

Refer to Confidential Appendix A for a discussion of the formation of impurities.

The discussion of the impurities is not adequate. A discussion on the possible formation of nitrosamines is needed. Data may be required that show the absence or presence of nitrosamines in Technical Cyromazine.

Analysis and Certification of Product Ingredients

62-1 - Preliminary Analysis of Product Samples

MP and Technical Grade of the Active Ingredient (TGAI)

Technical Cyromazine is an MP which is also technical. As a result, the method used to analyze the MP and the TGAI may be the same. The analytical method entails dissolving a sample in 2-methoxyethanol and determination of the components present using a capillary gas chromatograph and a flame ionization detector. The cyromazine in the sample is quantitated by comparison of the responses of sample and standard.

Refer to Confidential Appendix B for a discussion of the preliminary analysis. No additional data are required for this section.

62-2 - Certification of Ingredient Limits

The registrant has submitted a CSF (Form 8570-4) which contains the certified limits for the ai and impurities of the MP/TGAI. Refer to Confidential Appendix B for the ingredients in the MP.

No additional data are needed for this section.

62-3 - Analytical Methods to Verify Certified Limits

The analytical method is discussed in section 62-1 above and is adequate to verify the certified limits.

No additional data are needed for this section.

Physical and Chemical Characteristics

The physical and chemical properties of the MP/TGAI are listed below (MRID No. 405949-03).

3

<u>Section and Title</u>	<u>Description</u>
63-2 - Color	White
63-3 - Physical State	Crystalline Powder
63-4 - Odor	Odorless
63-5 - Melting Point	224-225 °C
63-6 - Boiling Point	N/A
63-7 - Density	1.35 g/mL at 20 °C
63-8 - Solubility	Solubilities in g/100 mL (except where specified in ppm) at 25 °C: Water (pH 8), 1.16; Hexane, toluene, cyclohexane - not soluble (less than 20 ppm); Methanol, 1.49; Acetone, 0.16; 2-Propanol, 0.13; Methylene chloride, 0.01; Octanol, 0.18
63-9 - Vapor Pressure	$3.3 \times 10^{-9}$ mm Hg at 25 °C
63-10 - Dissociation Constant	pKa <sub>1</sub> = 5.3 (20 °C) pKa <sub>2</sub> = 1.7 (20 °C)
63-11 - Octanol/Water Partition Coefficient	Log P = -0.16 at 25 ± 1 °C
63-12 - pH	8.0 at 25 °C
63-13 - Stability	Less than 1 percent decomposition for Cr+3, Cr+6, Zn+2, Fe+2, or Fe+3 when cyromazine was tested in a carbon steel container at 50 °C over a 2-week period
63-14 - Oxidizing or Reducing	N/A
63-15 - Flammability	N/A
63-16, 63-17, 63-18, 63-19, 63-20, and 63-21:	Tests not required for these sections.

No additional data are required for this section.

4

Recommendation

The product chemistry data requirements for this MP/TGAI have not been satisfied. Before a registration is issued, the following product chemistry requirements will have to be fulfilled.

Series 61 - Product Identity and Composition

The discussion of the impurities is not adequate (61-3). A discussion on the possible formation of nitrosamines is needed. Data may be required that show the absence or presence of nitrosamines in Technical Cyromazine.

Attachments: Confidential Appendix A  
Confidential Appendix B  
Attachment I

5

PRODUCT CHEMISTRY INFORMATION FORM A

1. Product Name	<u>Technical Cyromazine</u>
2. EPA Registration Number	<u>100-632</u>
3. Registrant Name	<u>Ciba-Geigy Corporation</u>
4. Active Ingredient(s)	<u>N-Cyclopropyl-1,3,5-triazine-</u> <u>2,4,6-triamine</u>

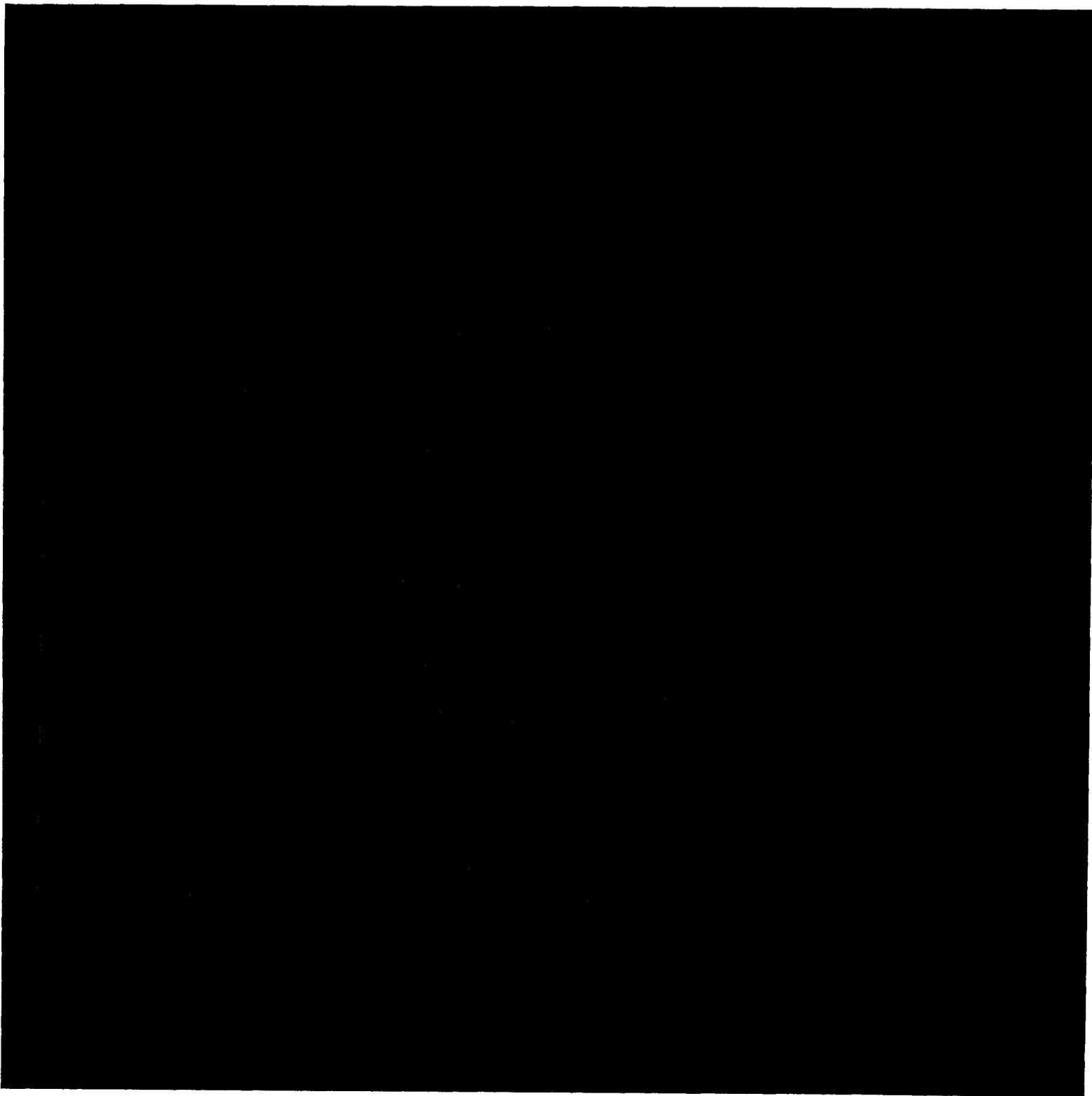
INFORMATION REQUESTED OF REGISTRANT	DATE	
	Req.	Rec.
1. Safety, Handling, and Storage Data	:	:
2. Analytical Method for Active Ingredient (ai)	:	:
3. Analytical Method for Specific Gravity	:	:
4. Analytical Grade Standard of ai	:	:
5. Analytical Standard of Specific Impurity*	:	:
6. Technical Grade of ai*	:	:
7. MP Grade Material with ai*	:	:
8. EP Grade Material with ai*	:	:
9. Melting Point	:	:
10. Boiling Point	:	:
11. Solubility of ai	:	:
12. Spectral Data, IR	:	:
MS	:	:
NMR	:	:

\*With Purity Statement.

4

INFORMATION REQUESTED OF REGISTRANT	DATE	
	Req.	Rec.
13. Chromatographic Data, GLC		
HPLC		
14. Other - Discussion on possible formation of nitrosamines.	X	

7



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The material not included contains the following type of information:

- Identity of product inert ingredients.
- Identity of product impurities.
- Description of the product manufacturing process.
- Description of quality control procedures.
- Identity of the source of product ingredients.
- Sales or other commercial/financial information.
- A draft product label.
- The product confidential statement of formula.
- Information about a pending registration action.
- FIFRA registration data.
- The document is a duplicate of page(s) \_\_\_\_\_.
- The document is not responsive to the request.
- Internal deliberative information.
- Attorney-Client work product.
- Claimed Confidential by submitter upon submission to the Agency.

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

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