DP BARCODE No.: D351187, 347125 **File Symbol No.:** 264-RNTE **PRODUCT NAME:** Proceed MD Fungicide

DATE OUT: 26 / JUN / 2008

SUBJECT: **FEE.PRODUCT CHEMISTRY REVIEW OF MP [ ] EP [X]**
DP BARCODE No.: D351187, 347125 **File Symbol No.:** 264-RNTE
PRODUCT NAME: Proceed MD Fungicide
COMPANY: Bayer Cropscience LP
FOOD USE [X] **INTEGRATED FORMULATION [ ]**
PCC: 113501, 113961, 128997; **Decision No.** 386008; **Action Code:** R170

FROM: Shyam B. Mathur
Product Chemistry Team Leader
Technical Review Branch / RD (7505P)

S Bmathur 6/26/08

TO: Bryant Crowe / Tony Kish, RM 22
Fungicide Branch / RD (7505P)

INTRODUCTION:

The registrant has submitted product chemistry data in support of the registration application for the proposed end-use product Proceed MD Fungicide. The registrant has submitted the product chemistry data corresponding to group A & B under MRID No. 472770-01. The applicant has provided a CSF for basic formulation (B010, dated 01-03-08) and two CSF's for alternate formulations (A010 & A020, both dated 01-03-08) along with the product label. On recommendation from the Agency, the registrant corrected the previously submitted CSF's (basic and two alternates) and submitted (on June 16, 2008) the revised basic (B010) and two alternate CSF's (A010 & A020) all dated 06-13-08. TRB has been asked to evaluate product chemistry data submitted and determine the acceptability of the proposed basic and alternate CSF's and the supporting product chemistry data.

SUMMARY OF FINDINGS

1. The proposed end use product contains Prothioconazole Technical [Reg. No. 264-824, 97.74%], Tebuconazole technical [Reg. No. 264-748, 95.37%], and Metalaxyl [redacted] as the active ingredients with product label claims of 1.47%, 0.29% and 0.59% respectively.

2. The revised CSF's for basic (B010) and revised alternate formulations (A010 & A020) all dated 06-13-08 are filled out correctly & completely. The nominal concentrations of the active ingredients concur with the product label claim nominal concentrations. The CSF (B010) for basic formulation is in compliance with PR Notice 91-2. The CSF's for alternate formulations (A010 & A020) are in compliance with PR Notice 91-2 and 40 CFR§152.43. All the food use inert ingredients present in the formulations are approved by the Agency (IIAB, 06-26-08) and have tolerance exemption for growing crops only. The certified limits for the AI and inert ingredients are in compliance with standard certified limit table set forth in 40CFR§158.350(b)(2). The data submitted corresponding to guidelines 830.1550 (product identity & composition) and 830.1750 (certified limits) satisfy the product chemistry data requirements of 40CFR§158.320 & 158.350 respectively [MRID No. 472770-01].

3. The data submitted corresponding to guideline 830.1600 (description of materials used to produce the product), 830.1650 (description of formulation process), and 830.1670 (discussion on the formation of impurity) satisfy the data requirements of 40CFR §158.325, §158.335, & §158.340 respectively [MRID No. 472770-01].

Product ingredient source information may be entitled to confidential treatment

4. The data submitted corresponding to guideline 830.1800 (enforcement analytical method) satisfy the data requirements of 40CFR§158.355. A reverse phase HPLC method was developed and validated for the determination of the active ingredients in the proposed end use product Proceed MD Fungicide. The method employed Water's Symmetry column, 250 mm x 4.6 mm, 5.0 µm with UV detector operating at 220 nm and external standard quantitation. The method was validated for linearity, precision and accuracy [MRID No. 472770-01].

5. The data submitted corresponding to guideline 830 series subgroup B (physical-chemical properties) satisfy the data requirements of 40CFR158.190, excluding one year storage stability (830.6317) and corrosion characteristics (830.6320) data. The registrant has stated that the one year storage stability (830.6317) and corrosion characteristics (830.6320) studies are in progress and the results will be submitted on completion [MRID No. 472770-01].

CONCLUSIONS:

The TRB has reviewed the product chemistry data submitted for the proposed end use product and has concluded that:

1. The product chemistry data submitted for the guidelines 830 Series Subgroup A & B are acceptable, except for one year storage stability & corrosion characteristics studies.

2. The proposed revised CSF for basic formulation (B010, dated 06-13-08) and revised CSF's for alternate formulations (A010 & A020, both dated 06-13-08) are acceptable and will supersede those which may have been previously submitted.

3. The registrant must submit the results of one year storage stability (830.6317) and corrosion characteristics (830.6320) studies on completion.

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Product Chemistry Data Group and Group B(Physical-chemical properties)

Subgroup A	Data Required Fulfilled	MRID No.
830.1550. Chemical Identity (Basic & Alternate CSF's)	A	All 06-13-08
830.1600. Beginning Materials	A	472770-01
830.1650. Formulation Process	A	472770-01
830.1670. Discussion of Impurities	A	472770-01
830.1700. Preliminary Analysis	NA	
830.1750. Certified Limits (Basic CSF & Alt CSF's)	A	All 06-13-08
830.1800. Enforcement Analytical Method	A	472770-01

Subgroup B	Data Required Fulfilled	Value or Qualitat. Descrip.	MRID No.
830.6302. Color	A	7.5R 4/16	472770-01
830.6303. Physical State	A	Liquid suspension	472770-01
830.6304. Odor	A	White glue like odor	472770-01
830.6314. Oxidation/Reduction Action	A	None	" " "
830.6315. Flammability	NA		
830.6316. Explodability	NA		
830.6317. Storage stability	I		
830.6319. Miscibility	NA		
830.6320. Corrosion Characteristics	I		
830.6321. Dielectric Breakdown Voltage	NA		
830.7000. pH	A	5.90 @ 25°C	472770-01
830.7100. Viscosity 22.7°C	A	34 cps	472770-01
830.7000. Density/Bulk Density 23°C	A	1.0458 g/cc	472770-01

Explanations: A = The Requirements Were Fulfilled; N = The Requirements Were Not Fulfilled; NA = Not Applicable; G = Data Gap; U = Requires Upgrading; I = Incomplete or In Progress; W = Waived.
*MAP = 10% Monoammonium phosphate.

830.1800. Enforcement analytical method: (MRID No. 472770-01)

The following information is taken directly from the data submitted by the registrant on the analytical method to determine active ingredient contents in the proposed end use product.

1. **Introduction**

   A reverse phase HPLC method was developed and validated for the determination of the active ingredient in Raxil Pro MD end-use product following the principles outlined in Bayer CropScience STC SOP 6.28, Revision Number 6, "Guidelines on Method Validation to be Performed in Support of Analytical Methods." The performance of the method was evaluated and validated using the following criteria: linearity, precision, accuracy, specificity, limit of detection (LOD) and limit of quantitation (LOQ).

2. **Safety and Environmental Considerations**

   Acetonitrile is a flammable and volatile solvent. Adequate ventilation and appropriate Personal Protective Equipment is required when working with this solvent.

3. **Purpose**

   This method is for the identification and determination of Prothioconazole, Metalaxyl and Tebuconazole in Raxil Pro MD end-use product samples using Liquid Chromatography (HPLC) with DAD/UV detection and external standard quantitation.

4. **Responsibilities**

   Each analyst is responsible for following all applicable SOPs, technical procedures, the study protocol and safety guidelines while conducting and documenting their analyses.

5. **Equipment and Materials**

   5.1 HPLC with programmable variable wavelength ultraviolet detector and an integrator/data station
   5.2 Water's Symmetry 4.6 X 250mm, 5µm Column
   5.3 Analytical balance
   5.4 Volumetric flasks
   5.5 Plastic transfer pipettes
   5.6 Class A pipettes
   5.7 HPLC Grade Acetonitrile
   5.8 Milli-Q Water Filtration System
   5.9 Prothioconazole, Metalaxyl and Tebuconazole reference standard of known purity. These are stored in an analytical freezer, in a dessicant cabinet. Lot no, and expiration dates are found in appendix 2
   5.10 The test substance (Lot No PSM731: 8-1) and Blank (Lot No PSM731: 9-1) are both stored in locked analytical lab cabinets at ambient room temperature.

6. Analytical Method

6.1 Preparation of Standard Solutions

6.1.1 Approximately 42mg Prothioconazole, 18mg of Metalaxyl and 9mg Tebuconazole is accurately added to 100mL volumetric flasks.
6.1.2 Acetonitrile is added to the mark.
6.1.3 Solids are agitated into solution.

6.2 Preparation of Test Substance Solutions

6.2.1 Mix the test substance thoroughly before sampling.
6.2.2 Approximately 3000mg of test substance is accurately added to a 100 ml volumetric flask.
6.2.3 Acetonitrile is added to the mark.
6.2.4 Samples are agitated into solution.

6.3 HPLC Operating Conditions

6.3.1 Instrument: Agilent 1100 HPLC with quaternary pump and UV detection or equivalent
6.3.2 Column: Water's Symmetry 4.6 X 250mm, 5µm
6.3.3 Column Temperature: 35°C
6.3.4 Gradient Program: Isocratic
6.3.4.1 Water 27.0%
6.3.4.2 Acetonitrile 73.0%
6.3.5 Run Time: 15.0 min.
6.3.6 Detection Wavelength: 220nm
6.3.7 Injection Volume: 2.0 µL
6.3.8 System Stabilization:
A stable baseline should be obtained before analyzing samples.
6.3.9 Approximate Retention Times:
6.3.9.1 Metalaxyl 4.85 min.
6.3.9.2 Tebuconazole 11.1 min.
6.3.9.3 Prothioconazole 12.7 min.
6.3.10 Sample Analysis
Inject the standard before and after at least every six samples.

7. Method of Calculation

A general calculation for use with chromatographic assays is given below. Other equivalent calculations can also be used.

% Assay (w/w) = (Rsp/Rstd) x (Mstd/Msp) x (DFsp/DFstd) x Std Purity x Multiplier

Sp: Sample
Std: Standard
R: Response (Area of selected peak divided by internal standard peak if used)
M: Quantity of undiluted sample or standard initially obtained
DF: Dilution Factor
Assay: Concentration of undiluted sample (%)

Sample Calculation

Purity of standard = 95%

Preparation of standard = 0.05g/100ml DFstd = 100
Preparation of sample = 0.2g/50 ml DFsp = 50
Peak (area) of standard = 2000
Peak (area) of sample = 1500

% Assay (w/w) = 1500/2000 x 0.05/0.2 x 50/100 x .95 x 100% = 8.95%

The dilution factors are found by inverting the dilution statements so that all solution volumes (excluding the initial quantities) are in the denominator and all added solvent volumes are in the numerator. The resulting numbers are then multiplied to obtain the dilution factors.

Example:

A 5 g sample is weighed into a 100 ml volumetric flask and diluted to volume. A 10.0 ml aliquot of this solution is then diluted to 50.0 ml.

The dilution factor is: (100 x 50)/10 = 500

Additional calculations may be performed to obtain results in the desired final units.

Bayer CropScience

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June 16, 2008

Bayer CropScience
2 T.W. Alexander Drive
P. O. Box 12014
RTP, NC 27709
Phone: (919) 549-2000

Attention: Tony Kish
Product Manager 22

Subject: Proceed MD Fungicide
EPA File Symbol 264-RNTE

Dear Mr. Kish:

On June 10, 2008, I received a telephone call from the Agency's Shyam Mathur regarding changes needed in the pending basic and alternate CSFs for Proceed MD Fungicide. Enclosed are revised CSFs, dated 6/13/2008, for Proceed MD Fungicide. We believe that these CSFs should now be acceptable.

If you have any questions or need additional information, please contact me by phone at (919) 549-2631 or by e-mail at mel.tolliver@bayercropscience.com.

Sincerely,

Melvin K. Tolliver

Melvin K. Tolliver
Registration Product Manager, Fungicides

Enclosures: EPA Form 8570-1 with one basic and two alternate CSFs dated 6/13/2008

Please read instructions on reverse before completing form. Form Approved. OMB No. 2070-0060. Approval expires 2-28-95

United States
Environmental Protection Agency
Washington, DC 20460

☐ Registration
☑ Amendment
☐ Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number: 264-RNTE
2. EPA Product Manager: Tony Kish
3. Proposed Classification: ☑ None ☐ Restricted
4. Company/Product (Name): Proceed MD Fungicide
PM#: Team 22
5. Name and Address of Applicant *(Include ZIP Code)*
Bayer CropScience LP
P.O. Box 12014, 2 T.W. Alexander Drive
Research Triangle Park, NC 27709
☐ *Check if this is a new address*
6. **Expedited Reveiw.** In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to:
EPA Reg. No. _____
Product Name _____

Section - II

☑ Amendment - Explain below.
☐ Resubmission in response to Agency letter dated _____
☐ Notification - Explain below.
☐ Final printed labels in repsonse to Agency letter dated _____
☐ "Me Too" Application.
☐ Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

On June 10, 2008, we received a telephone call from the Agency's Shyam Mathur regarding changes needed in the pending basic and alternate CSFs for Proceed MD Fungicide. Enclosed are revised CSFs, dated 6/13/2008, with the following changes: (1) the registration numbers for each active ingredient are listed and (2) the percent active for Tebuconazole Technical (EPA Reg. No. 264-748) is corrected to read 95.37%.

Section - III

1. Material This Product Will Be Packaged In:

Child-Resistant Packaging	Unit Packaging	Water Soluble Packaging	2. Type of Container
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Metal ☐ Plastic ☐ Glass ☐ Paper ☐ Other (Specify) _____
* ***Certification must be submitted***	If "Yes" Unit Packaging wgt. / No. per container	If "Yes" Package wgt / No. per container	

3. Location of Net Contents Information: ☐ Label ☐ Container
4. Size(s) Retail Container: 2.5 gallons and 200 gallons bulk
5. Location of Label Directions: ☐
6. Manner in Which Label is Affixed to Product: ☐ Lithograph ☐ Paper glued ☐ Stenciled ☐ Other _____

Section - IV

1. Contact Point *(Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)*

Name	Title	Telephone No. (Include Area Code)
Melvin K. Tolliver	Registration Product Manager, Fungicides	(919) 549-2631

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowlingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

6. Date Application Received **(Stamped)**

2. Signature	3. Title	4. Typed Name	5. Date
Melvin K. Tolliver	Registration Product Manager, Fungicides	Melvin K. Tolliver	June 16, 2008

Page _____ is not included in this copy.

Pages 9 through 14 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.

_____ Sales or other commercial/financial information.

_____ A draft product label.

__X__ 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.
