

FEB 14 1990

SUBJECT: Product Chemistry Review of  
Dimension Turf Herbicide (EPA  
File No. 524-UGU)

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Applicant: Monsanto Agricultural Co.

MRID Nos.: 411300-00, -01, -02, -03

CAS Registry No.: 97886-45-8

Company Code: MON-15104

Chemical Name: 3,5-Pyridinedicarbothioic  
acid, 2-(difluoromethyl)-4-(2-methylpropyl)-  
6-(trifluoromethyl)-5,5-dimethyl ester

Trade Name: Dimension Turf Herbicide

Common Name: Rithiopyr

Use: Herbicide

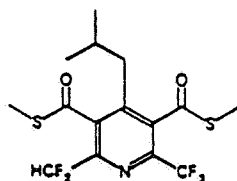
## Introduction:

This submission is for Dimension Turf Herbicide, an End-Use Product (EP) containing the active ingredient (a.i.) dithiopyr. Applications for EPs are required to fulfill the product chemistry data requirements as contained in 40CFR 158.120.

## Product Identity and Composition

### 61-1: Product Identity and Disclosure of Ingredients

The active ingredient (a.i.) dithiopyr is produced by Monsanto Agricultural Co. The product identity is indicated below:



Empirical Formula:  
Molecular Weight:  
CAS Registry No.:  
EPA Registration No.:  
Company Product No.:

C<sub>15</sub>H<sub>16</sub>F<sub>5</sub>NO<sub>2</sub>S<sub>2</sub>  
401.4

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Mon-15108, ~~XXXXXXXXXX~~

Information on the identity of the EP along with the Confidential Statement of Formula (CSF, EPA Form 8570-4) have been submitted by the applicant and are discussed in Confidential Appendix B.

61-2: Description of Beginning  
Materials and the Manufacturing  
Process

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

61-3: Discussion of the Formation  
of Impurities

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

No additional data are needed  
for this section.

Analysis and Certification of  
Product Ingredient

62-1: Preliminary Analysis

62-2: Certification of Limits

The applicant has submitted a Confidential Statement of Formula (CSF, EPA Form 8570-4) for the formulated product (see Confidential Appendix B for discussion.).

A revised label should be submitted which contains the lower certified limit for the active ingredient.

62-3: Analytical Methods To Verify Certified Limits

See 62-1 above for a discussion of the analytical methods.

Quality Control Procedures Information is Not Included

Physical and Chemical Characteristics  
 Summarized below are the physico-chemical properties of MON15104 formulated product (MK1D 411300-03)

| <u>Section No. - Property</u>             | <u>Description</u>                                                                                                                                                    |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 63-2 Color                                | Yellow to amber                                                                                                                                                       |
| 63-3 Physical State                       | Liquid                                                                                                                                                                |
| 63-4 Odor                                 | Mild, unobtrusive                                                                                                                                                     |
| 63-5 Melting Point                        | N/A                                                                                                                                                                   |
| 63-6 Boiling Point                        | N/A                                                                                                                                                                   |
| 63-7 Specific Gravity                     | 0.930 gm/ml                                                                                                                                                           |
| 63-8 Solubility                           | N/A                                                                                                                                                                   |
| 63-9 Vapor Pressure                       | N/A                                                                                                                                                                   |
| 63-10 Dissociation Constant               | N/A                                                                                                                                                                   |
| 63-11 Octanol/Water Partition Coefficient | N/A                                                                                                                                                                   |
| 63-12 pH                                  | 4.5                                                                                                                                                                   |
| 63-13 Stability                           | N/A                                                                                                                                                                   |
| 63-14 Oxidizing or Reducing Action        | No change when in contact with water, $\text{NH}_4\text{H}_2\text{PO}_4$ , $\text{CO}_2$ , Cu, Zn, or Fe for 24 hours.<br>Reduced in presence of 0.1N $\text{KMnO}_4$ |
| 63-15 Flammability                        | Greater than $200^\circ\text{F}$ ( $93^\circ\text{C}$ )                                                                                                               |
| 63-16 Explodability                       | Non-Explosive                                                                                                                                                         |
| 63-17 Storage Stability                   | A real-time 1 year study is underway. An accelerated aging study at 0, 50, and $60^\circ\text{C}$ for eight weeks show no change. 5                                   |

Section No. - Property

Description

63-18 Viscosity  
63-19 Miscibility  
63-20 Corrosion  
Characteristics

24 cp  
Not required  
Study underway  
in conjunction  
with storage  
stability study  
(63-17 above)

63-21 Dielectric Break-  
down Voltage

Not used in or  
around electrical  
equipment

The storage stability (63-17) and  
corrosion characteristics (63-20) results  
of studies underway <sup>are required and</sup> must be  
submitted.

### Summary of Deficiencies

The product chemistry data requirements for registration of this EP have not been satisfied. The following data requirements need to be fulfilled.

#### ~~62.2. Certification of Limits~~

~~A revised label is needed which contains the lower certified limit for the active ingredient.~~

### Physical and Chemical Characteristics

The results of studies underway for storage stability (63-17) and corrosion characteristics (63-20) are needed and must be submitted.

### Attachments:

Confidential Appendix A  
Confidential Appendix B

## Dithiopyr Science Review

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Pages   8   through  13  are not included in this copy.

The material not included contains the following type of information:

- ☒ Identity of product inert ingredients.
- ☐ Identity of product inert impurities.
- ☒ Description of the product manufacturing process.
- ☐ Description of product 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.

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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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