



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

APR 17 1992

OFFICE OF  
PESTICIDES AND TOXIC  
SUBSTANCES

**MEMORANDUM**

SUBJECT: Reregistration of Benfluralin. DowElanco Product Chemistry Considerations. Rereg. case# 2030; Chemical# 84301. MRID#s 420662-01, 420394-01, & 420394-02. CBRs#s 8818 & 8871. Action: 606 Data Package Review; Submission #s S405718 & S406220. DP Barcodes D170322 & D170699.

FROM: K. Dockter, Chemist *Kenneth Dockter*  
Special Review Section I  
Chemistry Branch II, Reregistration Support  
Health Effects Division (H7509C)

THRU: A.R. Rathman, Head  
Special Review Section I  
Chemistry Branch II, Reregistration Support *ARR*  
Health Effects Division (H7509C)

TO: L. De Luise / T. Myers, PM Team 52  
Accelerated Reregistration Branch  
Special Review and Reregistration Division (H7508W)

**Introduction**

Benfluralin [benefin; N-butyl-N-ethyl- $\alpha,\alpha,\alpha$ -trifluoro-2,6-dinitro-p-toluidine], a List B chemical, is registered as a herbicide. The Agency has concluded that all product chemistry requirements are applicable to benfluralin, except 63-6 Boiling point, 63-10 Dissociation constant, 63-12 pH. The Registrant committed to provide appropriate data. This memo will discuss DowElanco's product chemistry considerations for the reregistration of their pesticide products containing benfluralin as active ingredient.

**61-1 - Product Identity and Disclosure of Ingredients**

The Registrant has not submitted the required information on the identity of the product benfluralin, EPA Registration No. 84301 [MRID No. 420394-01]. A detailed Confidential Statement of Formula [CSF] is required.

In the current submission regarding benfluralin, the product identity of technical benefin is given simply as benefin without



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nominal concentration and certified limits; no other ingredients are disclosed.

Additional information is needed on this topic.

61-2 - Discussion of the Beginning Materials and Manufacturing Process

The Registrant has submitted the names and addresses of the suppliers of the beginning materials, and a detailed manufacturing process for technical benefin [MRID No. 420394-01]. Although cited, the "appendix of specification sheets" was not contained in subject data packages as received by the Branch.

A summary of the manufacturing process is given in Confidential Appendix A.

Additional information is required on this topic. All technical specifications or data sheets which describe composition, properties, or toxicity of the beginning materials are required.

61-3 - Discussion of Formation of Possible Impurities

The Registrant has submitted a detailed discussion of the formation of possible impurities, especially nitrosamines, during the manufacture of the technical product [MRID No. 420394-01].

No further information is needed under this topic.

<u>63-11 - Octanol/Water Partition Coefficient</u>	195,000 [temperature not given; but method described and data indicate room temperature MRID No. 420394-02].
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No additional information is required under this topic.

<u>63-13 - Stability</u>	Metals - stable after exposure at 66°C for 11 days Temperature - stable at elevated temperatures when in contact with metals and metal ions Light - half life approximately 10 hours in dilute and aqueous solution; cited MRID No. 410860-01 [MRID No. 420662-01].
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No other information is required on this topic.

Conclusion

Except for 61-1, 62-1, 62-2, 62-3, and 63-9 all other product chemistry requirements for benfluralin [EPA Registration No. 84301] have been satisfied.

## Attachments:

Appendix A [CONFIDENTIAL, 1 pages]

Table A: Product Chemistry Data Supporting Guideline  
Requirements for Reregistration of Benfluralin.

cc with Attachments: K. Dockter (CBRS), RF, SF, FIFRA '88  
File, E. Saito, C. Furlow/J. Burrell  
(PIB/FOD).

cc without Confidential Attachment: Circulation (7).

RDI:ARRathman:4/9/92:MSMetzger:4/10/92  
H7509C:CBRS:CM#2:RM802:3057886:KD/Kd:4/17/92

Table A

Product Chemistry Data Supporting Guideline Requirements for  
Reregistration of Benfluralin

Requirement		Requirement Fulfilled	Citation
61-1	Chemical Identity	No <sup>a</sup>	42039401
61-2	Beginning Materials and Manufacturing Process	No <sup>b</sup>	42039401
61-3	Discussion of the Formation of Impurities	Yes	42039401
62-1	Product Analysis	No <sup>c</sup>	NP
62-2	Certification of Limits	No <sup>c</sup>	NP
62-3	Methods to Verify Limits	No <sup>c</sup>	NP
63-2	Color	Yes	160843
63-3	Physical State	Yes	160843
63-4	Odor	Yes	160843
63-5	Melting Point	Yes	160843
63-6	Boiling Point	Yes	N/A
63-7	Density	Yes	160843
63-8	Solubility	Yes	160843
63-9	Vapor Pressure	No <sup>c</sup>	NP
63-10	Dissociation Constant	Yes	N/A
63-11	Octanol/Water Partition Coefficient	Yes	42039402
63-12	pH	Yes	N/A
63-13	Stability	Yes	42066201

NP = Not provided. N/A = not applicable

<sup>a</sup>A detailed CSF is required. The Registrant has committed to generate a new study, see Phase 4 review dated 12/18/90 by L. Cheng.

<sup>b</sup>All technical specifications or data sheets which describe composition, properties, or toxicity of the beginning materials are required. The Registrant has committed to generate a new study, see Phase 4 review dated 12/18/90 by L. Cheng.

<sup>c</sup>The Registrant has committed to generate a new study, see Phase 4 review dated 12/18/90 by L. Cheng.