# OVERVIEW

7/18/2000

MESOTRIONE (ZA1296)

Study Type: Non-Guideline; 28-Day Oral Toxicity Study of MNBA, a Mesotrione Analogue, in the Rat

Work Assignment No. 2-01-52B (amend 1) (MRID 44901706)

Prepared for

Health Effects Division
Office of Pesticide Programs
U.S. Environmental Protection Agency
1921 Jefferson Davis Highway
Arlington, VA 22202

Prepared by

Pesticides Health Effects Group
Sciences Division
Dynamac Corporation
2275 Research Boulevard
Rockville, MD 20850-3268

Primary Reviewer:
Guy Beretich, Ph.D.

Signature: Guy Beretich
Date: 4/24/00

Secondary Reviewer
Kelley Van Vreede, M.S.

Signature: Kelley Van Vreede
Date: 4/24/00

Program Manager
Mary L. Menetrez, Ph.D.

Signature: Mary L Menetrez
Date: 4/24/00

Quality Assurance:
Steve Brecher, Ph.D.

Signature: Steven Brecher
Date: 4/24/00

Disclaimer

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**MESOTRIONE [Triketone analogue MNBA (SC0735)]**

**Oral toxicity (non-GDL)**

David Nixon 7/17/2000

EPA Reviewer: David Nixon, DVM
Registration Action Branch 1/HED (7509C)

Work Assignment Manager: Marion Copley, DVM, DABT
Registration Action Branch 1/HED (7509C)

Marion Copley 7/18/2000

## OVERVIEW

STUDY TYPE: Oral toxicity
OPPTS Number: N/A

OPP Guideline Number: non-GDL

DP BARCODE: D259369
P.C. CODE: 122990

SUBMISSION CODE: S541375
TOX. CHEM. NO.: None

TEST MATERIAL (PURITY): MNBA (97.1% a.i.)

SYNONYMS: 2-nitro-4-methylsulfonylbenzoic acid

CITATION: Milburn, G. M., (1998) MNBA: 28 Day Oral Toxicity Study in Rats. Central Toxicology Laboratory, Cheshire, UK, Laboratory Report No: CTL/R/5578; Study No: KR1281, January 12, 1998. MRID 44901706. Unpublished.

SPONSOR: Zeneca AG Products, Wilmington, Delaware

Executive Summary: The objective of this study (MRID 44901706) was to investigate the toxicity of MNBA (97.1% a.i., Batch WRC 15483-30-1), a triketone analog, in male and female rats when administered by gavage for 28 consecutive days. Adult male and female Alpk:ApfSD rats (5/sex/group) were gavaged daily with MNBA in corn oil at 0, 15, 150, or 1000 (limit dose) mg/kg/day for 28 days. Body weights, food consumption, functional observational battery (FOB), hematology, and blood clinical chemistry parameters were measured. The adrenals, brain, epididymides, heart, kidneys, liver, spleen, testes, and thymus were weighed. Clinical observations, histopathological examinations, and necropsies were performed.

Results of toxicological concern in this special study are presented as an attachment to this overview (Study Report Tables 8, 11, 12, 13, and 14, pages 50, 53, 54, 58, 60, 69, and 70). Clinical observations, body weights, food consumption, blood clinical chemistry parameters, FOB, gross pathology, and histopathological observations were unaffected by treatment with the test substance.

There was no effect on motor activity in males. A dose-dependent increase in motor activity for the overall observation period (50 minutes) was observed in all female treatment groups (15 mg/kg - ↑23%, p= not significant; 150 mg/kg/day - ↑37%, p≤0.05; and 1000 mg/kg -↑57%, p≤0.01).



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The following observations were made, but due to the lack of corroborating evidence were considered of equivocal toxicological concern: 1) eosinophilia ($p \leq 0.05$ or 0.01) was observed in all female treatment groups (↑68, 100, and 92% in 15, 150, and 1000 mg/kg/day groups, respectively); 2) absolute and adjusted (to terminal body weight) spleen weights were decreased (↓12%, $p \leq 0.05$) in 1000 mg/kg/day females; and 3) adjusted (to terminal body weight) testes weights were increased (↑13%, $p \leq 0.05$) in 1000 mg/kg/day males.

In conclusion, MNBA, when administered to adult rats by gavage at up to 1000 mg/kg/day for 28 days, caused an increase in motor activity in females.

ATTACHMENT

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