

US EPA ARCHIVE DOCUMENT

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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DATE: 5/15/78

SUBJECT: Registration No. 241-241, Mutagenicity Testing of Counter, Soil Insecticide, Technical. CAS No. 131A

FROM: John Doherty, Toxicology Branch *John Doherty*

TO: F.D.R. Gee, Product Manager #16

Registrant: American Cyanamid Company
Agricultural Division
P.O. Box 400
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Product: Counter, Ferbufen
S[(tertbutylthio)methyl]-0,0diethyl phosphorodithioate

The following mutagenicity reports were submitted for data review:

1. Technical Counter in the Ames Test using Salmonella typhimurium TA 98, TA100, TA1535 and TA 1537; and Escherichia coli TA-2-uvrA⁺.
2. Technical Grade Terbufos in the standard Ames Test using Salmonella typhimurium TA1535, TA100, TA1537, TA98 and Escherichia coli WP-2-uvrA.
3. Mutagenicity testing counter (CL 92,100, AC 2374-15-2) using Salmonella typhimurium TA 1530, TA1538, TA98, TA100 and Escherichia Coli WP-2 and the Rosenbrang DNA repair test using Escherichia Coli Pol A⁺, Pol A⁻, WP-2, WP-2-uvrA⁺ and Salmonella typhimurium TA1978 and TA1539.

In all test both nonactivation and activation of possible mutagens were examined. For the metabolic activation tests a preparation of rat liver enzymes derived from rats that were pretreated with 100 mg of Araclor 1254 to induce hepatic oxidative processes.

The plate test as described by Ames (Mutation Research 31:347-346 (1975) was used in these experiments. In addition the disc test modification was also employed.

The positive control standard used were:

1. 2-aminofluorene for TA98 strain, this compound requires metabolic activation for mutagenicity.
2. N-methyl-N-nitro-nitroguanine for TA-1535, TA100 and WP-2uvrA⁺.

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3. 9-ammo acridine for TA-1537.

Results:

In no case was terbufos demonstrated to be a mutagen. All of the positive controls gave positive results indicating that the test procedure was valid. Terbufos was used in concentrations ranging from 0 to 1000 ug/plate.

The results of the DNA repair test described by Rosenbranz AIR 2: 319-366 were also negative when terbufos was tested at levels to 300 ug per disk.

Remarks and Recommendations

1. No mutagenicity has been demonstrated for this compound (terbufos).

These tests were conducted by the American Cyanamid Research Labs.

J.D./gjl

G.E. Whitmore . 5/15/78

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