

US EPA ARCHIVE DOCUMENT

DATA EVALUATION RECORD

TRICHLORFON

MUTAGENICITY

CITATION: Byeon WH, Hyun HH, Lee SY. 1976. Mutagenicity of pesticides  
in the Salmonella microsomes system. Korean J. Microbiol. 14:128-134.

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## DATA EVALUATION RECORD

STUDY TYPE: Mutagenicity in Salmonella typhimurium strains TA1535, TA1538, TA100, and TA98.

CITATION: Byeon WH, Hyun HH, Lee SY. 1976. Mutagenicity of pesticides in the Salmonella microsome system. Korean J. Microbiol. 14:128-134.

ACCESSION NUMBER: Not available.

MRID NUMBER: 00072190.

LABORATORY: Korean Atomic Energy Research Institute.

TEST MATERIAL: Trichlorfon (Dipterex), 0,0-dimethyl-(2,2,2-trichloro-1-hydroxyethyl phosphonate) [purity and source not stated].

### PROTOCOL:

It appeared [incomplete translation of Korean report hampered evaluation] that the Ames assay was employed with and without S9 mix from phenobarbital-, polychlorinated biphenyl complex-, and Aroclor 1254-treated rats. Trichlorfon was assayed in S. typhimurium strains TA1535, TA1538, TA100, and TA98 at one concentration (5 mg/plate) with and without S9 mix. In addition, trichlorfon was assayed in strain TA100 at 1, 2, 3, 4, and 5 mg/plate without S9 mix.

### RESULTS:

Trichlorfon at 5 mg/plate was "weakly mutagenic" (0-100 revertant colonies per plate after spontaneous revertants were subtracted) in strain TA100 with and without S9 mix. No mutagenic response was demonstrated for strains TA98, TA1535, and TA1538 with and without S9 mix. Trichlorfon at 1, 2, 3, 4, and 5 mg/kg/plate without S9 mix induced 28, 17, 104, 124, and 173 revertants per plate, respectively.

### CONCLUSIONS:

The authors conclusions could not be determined due to incomplete translation of the Korean report.

CORE CLASSIFICATION: Unacceptable.

The following deficiencies were noted:

- o The source and purity of trichlorfon were not stated.
- o Positive control data were not obtained, and it was not stated if solvent (acetone) controls were used.
- o Negative mutagenic results were obtained with strains TA1535, TA1538, and TA98. However, only one dose was tested with these strains, and the rationale for dose selection was not stated.
- o The positive results for strain TA100 in the single dose assay were not quantified; rather, the results were reported as "+," which was defined as "100 to 0 colonies per plate, respectively, after spontaneous revertants were subtracted."
- o Although several doses were tested with strain TA100, these were done without S9 mix.
- o The number of spontaneous revertants was not given. Furthermore, for the assays at several doses in TA100, it was not stated whether the number of revertants given represented the total number or the number after subtracting for spontaneous revertants.