DATA EVALUATION RECORD

TRICHLORFON

In Vitro Biochemical Toxicity

CITATION: Myhr BC. 1973. A screen for pesticide toxicity to protein and RNA synthesis in HeLa cells. J. Agr. Food Chem. 21 (3):362-367.

REVIEWED BY:

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DATA EVALUATION RECORD

STUDY TYPE: In vitro biochemical toxicity.

CITATION: Myhr BC. 1973. A screen for pesticide toxicity to protein and RNA synthesis in HeLa cells. J. Agr. Food Chem. 21 (3):362-367.

ACCESSION NUMBER: Not available.

MRID NUMBER: 05003093.

LABORATORY: Battelle, Columbus Laboratories, Columbus OH.

TEST MATERIAL: Trichlorfon (Dylox, 95 percent) supplied by Chemagro.

PROTOCOL:

1. Trichlorfon was dissolved in DMSO at 20 mg/ml for the assays. HeLa S-3 cells from Grand Island Biological Company in exponential growth phase were used for all assays. Trichlorfon was "equilibrated" in growth medium (calf serum) for 1 hour at 37°C prior to use.

2. Assay systems consisted of tubes with 5 ml of medium containing $4x10^5$ cells/ml, 346 µg trichlorfon/ml, 1.7 percent DMSO, and either 0.25 µCi of ^{14}C-labeled amino acid mixture or 5 µCi of [^3H]uridine (for protein and RNA synthesis, respectively). For each assay there were four tubes with test material that were terminated immediately for zero-time data, four that were incubated for 30 minutes at 37°C, and four negative controls with DMSO. Each assay was conducted in triplicate on three separate days.

3. Incorporation of labeled precursors was terminated by addition of phosphate-buffered saline. Cells were harvested, washed, and treated with 10 percent TCA. TCA insoluble precipitates were then heated if incorporation into protein was to be determined. Precipitates were washed, dissolved in 1N KOH, washed with 1N HCL, washed with water, and transferred to Aquasol for scintillation counting.

RESULTS:

Results were expressed as percent incorporation relative to controls. The values for treated cells were 76±5 percent and 77±6 percent for protein and RNA synthesis, respectively.

CONCLUSIONS:

The level of inhibition was "somewhat arbitrarily regarded as nonsignificant" by the author. Several other compounds tested had strong inhibitory effects. Therefore, this reviewer concluded that trichlorfon had a weak inhibitory effect.

CORE CLASSIFICATION: Supplementary.

This study does not contain data relevant to toxicology studies required for pesticide registration. However, the study provides useful information on the *in vitro* effects of trichlorfon on protein and RNA synthesis in mammalian cells.