DATA EVALUATION RECORD

TRICHLORFON

Chronic Toxicity


REVIEWED BY:

William McLellan, Ph.D.
Senior Scientist
Dynamac Corporation
11140 Rockville Pike
Rockville, MD 20852
301-468-2500

Cipriano Cueto, Ph.D.
Program Manager
Dynamac Corporation
11140 Rockville Pike
Rockville, MD 20852
301-468-2500

APPROVED BY:

Irving Mauer, Ph. D.
EPA Scientist

Signature: 
Date: July 28, 1983

Signature: 
Date: July 30, 1983
DATA EVALUATION RECORD

STUDY TYPE: Chronic toxicity—oral gavage and intramuscular injection in rats.


ACCESSION NUMBER: Not available.

MRID NUMBER: Not available.

LABORATORY: Central Institute of Cancer Research, Berlin.

TEST MATERIAL: Trichlorfon was the test material; purity was not stated.

PROTOCOL:
1. The test animals were 10-week-old Wistar rats.
2. The compound as an aqueous solution was administered to groups of 40 rats:
   a. By stomach tube, twice a week, at 15 mg/kg.
   b. By intramuscular injection, twice a week, at 15 mg/kg.
   c. Controls were included (number not stated).
   d. The duration of dosing was until spontaneous death.
3. The parameters measured were:
   a. Total leukocyte count (repeated blood tests were given to some of the animals).
   b. Cytological evaluation of femoral bone marrow smears.
   c. Histology of bone marrow in femoral and vertebrae bodies.
   d. Histology of liver and spleen.

RESULTS:
The average survival of rats administered trichlorfon orally was 93 weeks and after intramuscular dosing it was 81 weeks. Bone marrow smears and extraosseous tissue (liver and spleen) were histologically examined in 28/40 animals orally dosed and 27/40 animals intramuscularly dosed. Of those examined, 47 percent had pronounced myeloproliferation in the bone marrow.
and 34 percent had extraosseous, myeloid metaplasia, mainly in the liver and spleen. Bone marrow hyperplasia preferentially involved granulocytes. In the peripheral blood, leukocytosis (involving mainly the granulocytes) was observed in 23 percent of the animals (oral and intramuscular groups combined). The highest leukocyte counts exceeded 50,000/μl; the mean value was 27,407 ± 10,706 in test animals compared to 12,212 ± 2,531 for controls.

CONCLUSIONS:

Trichlorfon was administered to Wistar rats twice a week, for lifetime, at levels of 15 mg/kg. There was a pronounced hemotoxic action including severe hyperplasia of the bone marrow and extraosseous myeloid metaplasia, particularly in the liver and spleen. Since only one dose level was used, a dose related trend could not be established. Insufficient data were present to determine the onset of granulocytosis.

CORE CLASSIFICATION: Supplementary

The study is classified as Core invalid, since only summary data were presented.