55014-159

DATA EVALUATION RECORD

TGRAT

TRICHLORFON

~~Reproduction~~ and Teratogenic Evaluation of ~~T~~richlorfon Administered in the Feed to the Rat

CITATION: Tsaregorodtseva GN, Talanov GA. 1973. Embryotoxic and teratogenic effect of chlorophos, TCM-3, sevin, and dicresyl on white rats. Trudy, Vsesoyuznogo Nauchno-Issledovatel'skii Institut Veterinarinoi Sanitarii. 47:150-155 [English translation from Russian].

REVIEWED BY:

Curt Lunchick, M.S.
Project Scientist
Dynamac Corporation
11140 Rockville Pike
Rockville, MD 20852
301-468-2500

Signature: Curt Lunchick
Date: August 3, 1983

John R. Strange, Ph.D.
Department Director
Dynamac Corporation
11140 Rockville Pike
Rockville, MD 20852
301-468-2500

Signature: John R. Strange
Date: 3 August 1983

APPROVED BY:

Irving Mauer, Ph.D.
EPA Scientist

Signature: Irving Mauer
Date: 08-05-83

DATA EVALUATION RECORD

STUDY TYPE: Reproduction and teratogenic evaluation of trichlorfon administered in the feed to the rat.

CITATION: Tsaregorodtseva GN, Talanov GA. 1973. Embryotoxic and teratogenic effect of chlorophos, TCM-3, sevin, and dicresyl on white rats. Trudy, Vsesoyuznogo Nauchno-Issledovatel'skii Institut Veterinarinoi Sanitarii. 47:150-155 [English translation from Russian].

ACCESSION NUMBER: Not available.

MRID NUMBER: Not available.

LABORATORY: Not stated.

TEST MATERIAL: "Chlorophos"; (Trichlorfon). The purity and source were not stated.

PROTOCOL:

1. Trichlorfon was studied for its reproductive and teratogenic effects. The trichlorfon was referred to as chlorophos. Its purity and source were not stated.

2. White rats of an unspecified strain were used in the study. The female rats weighed 120 to 250 g. Each group was assigned ten pregnant rats.

3. Chlorophos was administered in the diet to the female rats at 50 mg/kg. The duration of chlorophos administration was not specified.

4. The authors did not state if maternal observations, body weights, or food consumption were recorded during gestation. From the data tables [the methodolgy section is unclear] it appears that five rats per group were sacrificed on day 21 of gestation and the embryos were "extracted." Unspecified numbers of the fetuses were examined for internal malformations utilizing Wilson's technique and other fetuses were examined for skeletal malformations. It was not stated if the numbers of corporal lutea and resorptions were recorded. An unspecified number of the fetuses were weighed, the body length was recorded, and liver, heart, brain, lung, and kidney weights were recorded.

It appears from the data tables that five rats per group were allowed to deliver their litters. The numbers of live and dead rats and the body weights of the live rats were recorded on day 1 of lactation.

5. "The results produced were processed by variational statistics."

RESULTS:

The body weights and lengths of the chlorophos-treated fetuses were similar to the control fetuses. Heart, liver, lung, and kidney organ weights of the test fetuses were nearly identical to the control fetal organ weights. The brain weight of the chlorophos fetuses was reduced when compared to the control fetal brain weight. The brains of the trichlorfon fetuses were 220 mg compared to 251 mg among the controls. No data on the visceral and skeletal fetal examinations were provided. The authors stated that no visceral or skeletal effects were observed. The number of live and dead fetuses in the chlorophos litters were comparable to the controls.

The number of live and dead rat pups and their body weights were comparable between the control and chlorophos groups.

CONCLUSIONS:

Pregnant rats were administered 50 mg/kg chlorophos in the feed for an unspecified period of gestation. Five dams per group were sacrificed on day 21 of gestation and the fetuses were examined for skeletal and visceral malformations. Organ weights were recorded on an unspecified number of the fetuses. Five different dams per group were allowed to deliver their litters. The number of live and dead pups and the body weight of the live pups were recorded.

With the exception of a reduction in fetal brain weight among the chlorophos litters, no differences were observed between the control and chlorophos treated fetuses and pups. The unspecified duration of chlorophos administration during gestation prevents an evaluation of the results. [However, the depression in fetal brain weight should be considered in an overall evaluation of the teratogenic potential of this compound].

CORE CLASSIFICATION: Supplementary data.

The following deficiencies were noted:

- The duration of chlorophos administration was not stated.
- The method of assignment for fetuses to visceral and skeletal examination and for organ body weights was not specified.
- No maternal data were reported.
- The strain of rat was not specified.
- The purity and source of the chlorophos were not stated.