HAZLETON LABORATORIES
Biochemists . . . Pharmacologists . . . Analysts
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Certificate of Analysis

June 25th, 1962

SUBJECT -

Toxicological Investigation Of: Aroclor 1254

Monsanto Sample Number 38
Monsanto Project Number Y-62-36

STUDY CONDUCTED FOR -

Monsanto Chemical Company, St. Louis, Missouri

Y-62-36
6/25/62

EXPERIMENTAL PROCEDURE -

A) Oral LD_{50} (Rats)

The undiluted compound was fed by stomach tube to Sprague-Dawley strain albino rats.

After the approximate Minimum Lethal Dose was determined, groups of male and female rats were fed in increasing doses at increments of 0.1 fractional log intervals at four levels designed to blanket the toxicity range thereby supplying data for calculation of the LD_{50} which was done according to a modification of the method of L. J. de Beer.

Observations were made for toxic symptoms and the viscera of the animals that succumbed were examined macroscopically.

The data are shown in Table I.

B) Skin Absorption LD_{50} (Rabbits)

The undiluted compound was applied in increasing doses at increments of 0.2 fractional log intervals to the closely clipped, intact skin of New Zealand white female rabbits.

The treated areas were covered with plastic strips and the animals placed in wooden stocks for periods up to twenty-four hours, after which time they were assigned to individual cages.

Observations were made for toxic symptoms and the viscera of the animals that succumbed were examined macroscopically.

The data are shown in Table II.

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SUMMARY -

Aroclor 1254

A) Oral LD_{50} (Rats)

The Oral LD_{50} for male and female rats was placed at 11,900 milligrams per kilogram with lower and upper limits of 10,475 to 13,450 milligrams per kilogram.

The compound was classed as practically non-toxic by oral ingestion in male and female rats.

B) Skin Absorption MID (Rabbits)

The Minimum Lethal Dose by Skin Absorption in female rabbits was found to be greater than 1260 milligrams per kilogram and less than 2000 milligrams per kilogram.

The compound was classed as mildly toxic by skin absorption in female rabbits.

YOUNGER LABORATORIES

BY: FRED M. YOUNGER

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TABLE I

THE ORAL LD_{50} OF 'Aroclor 1254' FOR RATS

Sample Fed Undiluted

Animal No. - Sex	Weight Gm.	Dose Mg./Kg.	Fate
1- Female	210	7,940	Survived
2- Female	200	7,940	Survived
3- Female	215	7,940	Survived
4- Male	230	7,940	Survived
5- Male	225	7,940	Survived
6- Male	240	10,000	Died
7- Female	215	10,000	Survived
8- Female	220	10,000	Died
9- Female	230	10,000	Survived
10- Male	245	10,000	Survived
11- Male	250	12,600	Survived
12- Male	235	12,600	Died
13- Female	215	12,600	Died
14- Female	225	12,600	Survived
15- Female	230	12,600	Died
16- Male	250	15,800	Died
17- Male	245	15,800	Survived
18- Male	230	15,800	Died
19- Female	215	15,800	Died
20- Male	240	15,800	Died

DISCUSSION -

The Oral LD_{50} for male and female rats was placed at 11,900 milligrams per kilogram with lower and upper limits of 10,475 to 13,450 milligrams per kilogram.

The compound was classed as practically non-toxic by oral ingestion in male and female rats.

Survival time was two to six days with most deaths occurring in three days.

Toxic symptoms included severe diarrhea, loss of appetite, lethargy, salivation, and increasing weakness.

At autopsy there was inflammation of the gastric mucosa, pulmonary hyperemia, and liver discoloration macroscopically.

TABLE II

THE MINIMUM LETHAL DOSE OF 'Aroclor 1254' BY SKIN ABSORPTION IN RABBITS

Sample Applied Undiluted

Animal No. - Sex	Weight Kg.	Dose Mg./Kg.	Weight Change 5 Days Later Kg.	Fate
1 - Female	2.4	501	0.0	Survived
2 - Female	2.5	794	0.0	Survived
3 - Female	3.0	1260	- 0.2	Survived
4 - Female	2.7	2000	- 0.4	Died -- 8 Days
5 - Female	2.5	3160	- 0.5	Died -- 7 Days
6 - Female	2.6	5010	----	Died -- 4 Days

DISCUSSION -

The Minimum Lethal Dose by Skin Absorption in female rabbits was found to be greater than 1260 milligrams per kilogram and less than 2000 milligrams per kilogram.

The compound was classed as mildly toxic by skin absorption in female rabbits.

Survival time was four to eight days.

Toxic symptoms included poor appetite, lethargy after two to three days, marked weight loss and increasing weakness. Animals #1 and #2 were little affected while #3 became moderately weak but was not in danger of collapse.

At autopsy there was renal congestion and liver discoloration (yellowish) macroscopically.