PROJECT NO Y-62-34
REPORT FILE

YOUNGER LABORATORIES

Biochemists . . Pharmacologists . . Analysts

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Certificate of Analysis

June 19th, 1962

SUBJECT -

Toxicological Investigation Of: Aroclor 1242
Monsanto Sample Number 36
Monsanto Project Number Y-62-34

Y-62-34
[illegible]/19/62

STUDY CONDUCTED FOR -

Monsanto Chemical Company, St. Louis, Missouri

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 R. 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 MLD (Rabbits)

The undiluted compound was applied in increasing doses at increments of 0.7 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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MONS 036383

To: Monsanto Chemical Company
St. Louis, Missouri
Younger Laboratories Certificate of Analysis - Page 2 (4/19/62) - T-62-34

SUMMARY -

Arcolor 1242

A) Oral LD_{50} (Rats)

The Oral LD_{50} for male and female rats was placed at 8650 milligrams per kilogram with lower and upper limits of 7610 to 9775 milligrams per kilogram.

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

B) Skin Absorption MLD (Rabbits)

The Minimum Lethal Dose by Skin Absorption in female rabbits was found to be greater than 794 milligrams per kilogram and less than 1260 milligrams per kilogram. Animal #2 was moderately affected but was not in danger of collapse.

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

YOUNGER LABORATORIES

BY: FRED M. YOUNGER

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— Monsanto Chemical Company

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St. Louis, Missouri
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TABLE I

THE ORAL LD_{50} OF 'Aroclor 1242' FOR RATS

Sample Fed Undiluted

Animal No. - Sex	Weight Gm.	Dose Mg./Kg.	Fate
1- Female	220	6,310	Survived
2- Female	220	6,310	Survived
3- Female	225	6,310	Survived
4- Male	240	6,310	Survived
5- Male	225	6,310	Survived
6- Male	235	7,940	Survived
7- Female	210	7,940	Died
8- Female	215	7,940	Died
9- Female	225	7,940	Survived
10- Male	225	7,940	Died
11- Male	245	7,940	Survived
12- Male	230	10,000	Died
13- Female	215	10,000	Died
14- Female	205	10,000	Died
15- Female	220	10,000	Died
16- Male	235	10,000	Survived
17- Male	250	12,600	Died
18- Male	240	12,600	Died
19- Female	215	12,600	Died
20- Female	215	12,600	Died
21- Male	230	12,600	Died

DISCUSSION -

The Oral LD_{50} for male and female rats was placed at 8650 milligrams per kilogram with lower and upper limits of 7610 to 9775 milligrams per kilogram.

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

Survival time was about twenty-four hours to three days with most deaths occurring in two days.

Toxic symptoms included diarrhea, loss of appetite, increasing weakness, dyspnea, and collapse.

At autopsy there was liver and renal hyperemia macroscopically.

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TABLE II

THE MINIMUM LETHAL DOSE OF 'Arochlor 1242'
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	500	- 0.2	Survived
2 - Female	2.0	794	- 0.2	Survived
3 - Female	2.2	1260	- 0.4	Died - 7 Days
4 - Female	2.3	2000	- 0.3	Died - 10 Days
5 - Female	2.1	2000	- 0.4	Died - 8 Days
6 - Female	2.2	3160	-----	Died - 4 Days
7 - Female	2.4	5010	- 0.5	Died - 6 Days

DISCUSSION -

The Minimum Lethal Dose by Skin Absorption in female rabbits was found to be greater than 794 milligrams per kilogram and less than 1260 milligrams per kilogram. Animal #2 was moderately affected but was not in danger of collapse.

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

Survival time was four to ten days.

Toxic symptoms included poor appetite with marked weight loss, occasional squealing after several days, and collapse.

At autopsy there was liver discoloration (light color and soft), and pulmonary congestion macroscopically.