YOUNGER LABORATORIES
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Certificate of Analysis

June 19th, 1962

SUBJECT -

Toxicological Investigation Of: Aroclor 1248

Monsanto Sample Number 37
Monsanto Project Number Y-62-35

STUDY CONDUCTED FOR -

Monsanto Chemical Company, St. Louis, Missouri

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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 E. 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 0.2 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 1248

A) Oral LD_{50} (Rats)

The Oral LD_{50} for male and female rats was placed at 12,500 milligrams per kilogram with lower and upper limits of 11,000 to 14,250 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.

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

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BY: FRED M. YOUNGER

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TABLE I

THE ORAL LD_{50} OF 'Aroclor 1248' FOR RATS

Sample Fed Undiluted

Animal No. - Sex	Weight Gm.	Dose Mg./Kg.	Fate
1- Female	215	7,940	Survived
2- Female	210	7,940	Survived
3- Female	210	7,940	Survived
4- Male	235	7,940	Survived
5- Male	225	7,940	Survived
6- Male	240	10,000	Survived
7- Female	210	10,000	Died
8- Female	220	10,000	Survived
9- Female	225	10,000	Survived
10- Male	235	10,000	Survived
11- Male	225	12,600	Died
12- Male	245	12,600	Survived
13- Female	205	12,600	Survived
14- Female	220	12,600	Died
15- Female	215	12,600	Survived
16- Male	250	15,800	Died
17- Male	235	15,800	Survived
18- Male	230	15,800	Died
19- Female	220	15,800	Died
20- Female	225	15,800	Died

DISCUSSION -

The Oral LD_{50} for male and female rats was placed at 12,500 milligrams per kilogram with lower and upper limits of 11,000 to 14,250 milligrams per kilogram.

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

Survival time was one to four days with most deaths occurring in three days.

Toxic symptoms included diarrhea, poor appetite, increasing weakness, and collapse.

At autopsy there was inflammation of the gastric mucosa and renal hyperemia macroscopically.

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TABLE II

THE MINIMUM LETHAL DOSE OF 'Aroclor 1248'
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	2.1	501	- 0.1	Survived
2 - Female	2.6	794	- 0.1	Survived
3 - Female	2.3	1260	- 0.4	Died -- 8 Days
4 - Female	2.2	2000	- 0.3	Died -- 7 Days
5 - Female	2.5	2000	- 0.3	Died -- 6 Days
6 - Female	2.4	3160	- 0.4	Died -- 7 Days
7 - Female	2.2	5010	- 0.4	Died -- 5 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.

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

Survival time was five to eight days.

Toxic symptoms included poor appetite, weight loss, increasing weakness, and collapse. Animal #7 developed convulsions after three days.

At autopsy there was liver and renal hyperemia macroscopically.

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