PROJECT NO: Y-66-163
REPORT FILE

YOUNGER LABORATORIES

Biochemists . . . Pharmacologists . . . Analysts

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Certificate of Analysis

November 9th, 1966

SUBJECT -

Toxicological Investigation Of: MCS 153

Monsanto Sample Number 188

Monsanto Project Number Y-66-163

STUDY CONDUCTED FOR -

Monsanto Company, St. Louis, Missouri

EXPERIMENTAL PROCEDURE -

A) Oral LD_{50} (Rats, Mixed Sex)

The undiluted compound was fed by stomach tube to Sprague-Dawley strain albino male and female 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, Mixed Sex)

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 male and 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 -

MCS 153

A) Oral LD_{50} (Rats, Mixed Sex)

The Oral LD_{50} for male and female rats was placed at 7,850 milligrams per kilogram with lower and upper limits of 6,085 to 10,130 milligrams per kilogram.

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

B) Skin Absorption MLD (Rabbits, Mixed Sex)

The Minimum Lethal Dose by Skin Absorption in male and 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 male and female rabbits.

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BY: FRED M. YOUNGER

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To: Monsanto Company
St. Louis, Missouri
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TABLE I

THE ORAL LD_{50} OF 'MCS 153' FOR RATS

Sample Fed Undiluted

Animal No. - Sex	Weight Gm.	Dose Mg./Kg.	Fate
1- Female	230	5,010	Survived
2- Male	245	5,010	Survived
3- Female	215	5,010	Died
4- Male	260	5,010	Survived
5- Female	220	5,010	Survived
6- Male	250	6,310	Survived
7- Female	225	6,310	Survived
8- Male	260	6,310	Survived
9- Female	230	6,310	Died
10- Male	255	6,310	Survived
11- Female	215	7,940	Survived
12- Male	270	7,940	Died
13- Female	235	7,940	Died
14- Male	250	7,940	Survived
15- Female	230	7,940	Survived
16- Male	260	10,000	Died
17- Female	225	10,000	Died
18- Male	245	10,000	Died
19- Female	215	10,000	Died
20- Male	250	10,000	Survived

DISCUSSION -

The Oral LD_{50} for male and female rats was placed at 7,850 milligrams per kilogram with lower and upper limits of 6,085 to 10,130 milligrams per kilogram.

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

Survival time was several hours to four days.

Toxic symptoms included severe tremors, lacrimation, salivation, loss of appetite, and paralysis.

At autopsy there were hemorrhagic areas in the lungs as well as liver discoloration.

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TABLE II

THE MINIMUM LETHAL DOSE OF 'MCS 153' 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	2.6	794	0.0	Survived
2 - Male	3.0	1260	- 0.2	Survived
3 - Female	2.5	2000	- 0.2	Died -- 7 Days
4 - Male	2.8	3160	- 0.3	Died - 12 Days
5 - Female	2.5	5010	- 0.3	Died -- 5 Days
6 - Male	2.7	7940	- 0.4	Died -- 7 Days

DISCUSSION -

The Minimum Lethal Dose by Skin Absorption in male and 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 male and female rabbits.

Survival time was five to twelve days.

Toxic symptoms included reduced activity and appetite, increasing weakness, collapse, and coma of six to twenty-four hours.

At autopsy there was pulmonary and renal hyperemia.

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