YOUNGER LABORATORIES
Biochemists . . . Pharmacologists . . . Analysts

123 CLIFF CAVE ROAD
SAINT LOUIS, MO., 63129
PHONE: TILDEN 6-2540

Certificate of Analysis

November 9th, 1966

SUBJECT -

Toxicological Investigation Of: PYDRAUL F-9

Monsanto Sample Number 184

Monsanto Project Number Y-66-159

STUDY CONDUCTED FOR -

Monsanto Company, St. Louis, Missouri

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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 -

HYDRAUL F-9

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

The Oral LD_{50} for male and female rats was placed at 11,200 milligrams per kilogram with lower and upper limits of 9,855 to 12,770 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 501 milligrams per kilogram and less than 794 milligrams per kilogram.

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

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BY: FRED M. YOUNGER

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TABLE I

THE ORAL LD_{50} OF 'PYDRAUL F-9' FOR RATS

Sample Fed Undiluted

Animal No. - Sex	Weight Gm.	Dose Mg./Kg.	Rate
1- Female	215	7,940	Survived
2- Male	260	7,940	Survived
3- Female	225	7,940	Survived
4- Male	240	7,940	Survived
5- Female	230	7,940	Survived
6- Male	245	10,000	Survived
7- Female	220	10,000	Died
8- Male	255	10,000	Survived
9- Female	215	10,000	Died
10- Male	250	10,000	Survived
11- Female	230	12,600	Died
12- Male	245	12,600	Died
13- Female	220	12,600	Survived
14- Male	260	12,600	Survived
15- Female	225	12,600	Died
16- Male	270	15,800	Died
17- Female	230	15,800	Died
18- Male	245	15,800	Died
19- Female	225	15,800	Died
20- Male	240	15,800	Died

DISCUSSION -

The Oral LD_{50} for male and female rats was placed at 11,200 milligrams per kilogram with lower and upper limits of 9,855 to 12,770 milligrams per kilogram.

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

Survival time was two to five days.

Toxic symptoms included weakness after several hours, diarrhea, loss of appetite, tremors, and dyspnea.

At autopsy there was renal and liver hyperemia by macroscopic examination.

TABLE II

THE MINIMUM LETHAL DOSE OF 'HYDRAUL F-9'
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	2.3	316	0.0	Survived
2 - Male	2.6	501	- 0.2	Survived
3 - Female	2.4	794	- 0.3	Died -- 7 Days
4 - Male	2.8	1260	- 0.3	Died -- 7 Days
5 - Female	2.4	2000	- 0.2	Died -- 6 Days
6 - Male	2.6	3160	- 0.4	Died -- 5 Days

DISCUSSION -

The Minimum Lethal Dose by Skin Absorption in male and female rabbits was found to be greater than 501 milligrams per kilogram and less than 794 milligrams per kilogram.

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

Survival time was five to seven days.

Toxic symptoms included loss of appetite, lethargy, and noticeable weakness in two to three days.

At autopsy there was pulmonary hyperemia; otherwise no visceral changes of consequence were noted macroscopically.