

YOUNGER LABORATORIES

Biochemists ... Pharmacologists ... Analysts

895
188 CLIFF CAVE ROAD
SAINT LOUIS, MO. 63129
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Certificate of Analysis

November 9th, 1966

SUBJECT -

Toxicological Investigation Of: PYDRAUL AC

Monsanto Sample Number 183

Monsanto Project Number Y-66-158

STUDY CONDUCTED FOR -

Monsanto Company, St. Louis, Missouri

EXPERIMENTAL PROCEDURE -

A) Oral LD₅₀ (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 LD₅₀ 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 -

PYDRAUL AC

A) Oral LD₅₀ (Rats, Mixed Sex)

The Oral LD₅₀ for male and female rats was placed at 18,920 milligrams per kilogram with lower and upper limits of 16,270 to 21,950 milligrams per kilogram.

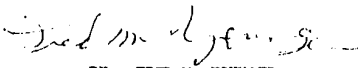
The compound was classed as practically non-toxic by oral ingestion in male and female rats.

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 794 milligrams per kilogram and less than 1260 milligrams per kilogram.

The compound was classed as mildly to 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 LD₅₀ OF 'PYDRAUL AC' FOR RATS

Sample Fed Undiluted

Animal No. - Sex	Weight Gm.	Dose Mg./Kg.	Fate
1- Female	215	12,600	Survived
2- Male	250	12,600	Survived
3- Female	275	12,600	Survived
4- Male	260	12,600	Survived
5- Female	220	12,600	Survived
6- Male	250	15,800	Survived
7- Female	235	15,800	Survived
8- Male	255	15,800	Survived
9- Female	215	15,800	Died
10 - Male	260	15,800	Survived
11- Female	225	20,000	Died
12- Male	245	20,000	Survived
13- Female	220	20,000	Died
14- Male	260	20,000	Survived
15- Female	210	20,000	Survived
16- Male	235	25,100	Died
17- Female	220	25,100	Died
18- Male	250	25,100	Died
19- Female	230	25,100	Died
20- Male	265	25,100	Died

DISCUSSION -

The Oral LD₅₀ for male and female rats was placed at 18,920 milligrams per kilogram with lower and upper limits of 16,270 to 21,950 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 nine days with most deaths occurring in three to five days.

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

At autopsy the gastrointestinal tract was gaseous and inflamed. Liver discoloration and renal congestion were also noted.

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TABLE II

THE MINIMUM LETHAL DOSE OF 'PYDRAULAC'
BY SKIN ABSORPTION IN RABBITS

Sample Applied Undiluted

Animal No. - Sex	Weight	Dose Mg./Kg.	Weight Change 5 Days Later	Fate
	Kg.		Kg.	
1 - Male	2.8	501	+ 0.1	Survived
2 - Female	2.4	794	0.0	Survived
3 - Male	3.1	1260	- 0.2	Died -- 9 Days
4 - Female	2.6	2000	- 0.3	Died - 10 Days
5 - Male	2.8	3160	- 0.4	Died -- 5 Days
6 - Female	2.5	5010	- 0.2	Died -- 6 Days

DISCUSSION -

The Minimum Lethal Dose by Skin Absorption in male and female rabbits was found to be greater than 794 milligrams per kilogram and less than 1260 milligrams per kilogram.

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

Survival time was five to ten days.

Toxic symptoms included reduced activity and weakness in two to three days followed by paralysis in animals #3 through #6 inclusive.

At autopsy there were hemorrhagic areas in the lungs and liver hyperemia.