YOUNGER LABORATORIES
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# Certificate of Analysis

November 9th, 1966

SUBJECT -

Toxicological Investigation Of: PYDRAUL 625
Monsanto Sample Number 187
Monsanto Project Number Y-66-162

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 -

PYDRAUL 625

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

The Oral $LD_{50}$ for male and female rats was placed at 20,700 milligrams per kilogram with lower and upper limits of 17,390 to 24,630 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 2000 milligrams per kilogram and less than 3160 milligrams per kilogram.

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

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BY: FRED H. YOUNGER

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— Monsanto Company

TABLE I

THE ORAL $LD_{50}$ OF 'PYDRAUL 625' FOR RATS

Sample Fed Undiluted

| Animal No. - Sex | Weight Gm. | Dose Mg./Kg. | Fate |
|---|---|---|---|
| 1- Female | 225 | 12,600 | Survived |
| 2- Male | 250 | 12,600 | Survived |
| 3- Female | 210 | 12,600 | Survived |
| 4- Male | 240 | 12,600 | Survived |
| 5- Female | 215 | 12,600 | Survived |
| 6- Male | 235 | 15,800 | Survived |
| 7- Female | 220 | 15,800 | Died |
| 8- Male | 245 | 15,800 | Survived |
| 9- Female | 215 | 15,800 | Survived |
| 10- Male | 250 | 15,800 | Survived |
| 11- Female | 225 | 20,000 | Survived |
| 12- Male | 235 | 20,000 | Survived |
| 13- Female | 220 | 20,000 | Died |
| 14- Male | 255 | 20,000 | Survived |
| 15- Female | 210 | 20,000 | Died |
| 16- Male | 260 | 25,100 | Survived |
| 17- Female | 230 | 25,100 | Died |
| 18- Male | 240 | 25,100 | Died |
| 19- Female | 215 | 25,100 | Died |
| 20- Male | 250 | 25,100 | Died |

DISCUSSION -

The Oral $LD_{50}$ for male and female rats was placed at 20,700 milligrams per kilogram with lower and upper limits of 17,390 to 24,630 milligrams per kilogram.

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

Survival time was two to six days.

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

At autopsy there was liver, renal, and pulmonary hyperemia.

TABLE II

THE MINIMUM LETHAL DOSE OF 'HYDRAUL 625'
BY SKIN ABSORPTION IN RABBITS

Sample Applied Undiluted

| Animal No. - Sex | Weight Kg. | Dose Mg./Kg. | Weight Change 5 Days Later Kg. | Fate |
|---|---|---|---|---|
| 1 - Male | 3.1 | 794 | + 0.1 | Survived |
| 2 - Female | 2.5 | 1260 | + 0.1 | Survived |
| 3 - Male | 3.0 | 2000 | - 0.1 | Survived |
| 4 - Female | 2.7 | 3160 | - 0.3 | Died -- 9 Days |
| 5 - Male | 2.8 | 5010 | - 0.4 | Died -- 7 Days |
| 6 - Female | 2.5 | 7940 | - 0.3 | Died -- 5 Days |

DISCUSSION -

The Minimum Lethal Dose by Skin Absorption in male and female rabbits was found to be greater than 2000 milligrams per kilogram and less than 3160 milligrams per kilogram.

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

Survival time was five to nine days.

Toxic symptoms included weakness in two to three days followed by paralysis.

At autopsy the lungs were hemorrhagic and there was liver discoloration.