Scientific Associates

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CERTIFICATE OF ANALYSIS

SUBJECT -

The Minimum Lethal Dose of Pydraul F-9 when fed orally to laboratory rats.

Monsanto Project No. M-28

TEST CONDUCTED FOR -

Monsanto Chemical Company, St. Louis, Missouri.

EXPERIMENTAL PROCEDURE -

The Minimum Lethal Dose of Pydraul F-9 was found by the introduction of measured single doses of the undiluted product into the stomachs of mature laboratory rats by means of a rubber catheter.

The animals were observed occasionally for outward signs of toxicity. Those receiving a lethal dose were autopsied and the internal organs examined macroscopically. The data are given in Table I.

RESULTS -

The Minimum Lethal Dose of Pydraul F-9 when fed orally to mature laboratory rats was 8.4 - 12.5 milliliters per kilogram of body weight. By contrast, our report of 2-19-51 showed an M.L.D. of 0.45 - 0.67 milliliters per kilogram of body weight for New Zealand white rabbits.

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TABLE I

THE MINIMUM LETHAL DOSE OF "PYDRAUL F-9" WHEN FED ORALLY TO MATURE LABORATORY RATS

Animal No. - Sex	Animal Weight Kg.	Dose Ml./Kg. Body Weight	Fate
1 - Male	0.28	0.55	Survived - No loss in weight
2 - Male	0.31	1.06	Survived - Maximum Weight Loss 6%
3 - Female	0.26	2.80	Survived - Maximum Weight Loss 5%
4 - Male	0.29	3.40	Survived - Maximum Weight Loss 9%
5 - Female	0.24	5.30	Survived - Maximum Weight Loss 18%
6 - Female	0.22	6.66	Survived - Maximum Weight Loss 15%
7 - Female	0.20	8.40	Survived - Maximum Weight Loss 21%
8 - Male	0.30	10.15	Died (27 Days) - Wt. Loss at Death 19%
9 - Male	0.32	12.25	Survived - Maximum Weight Loss 26%
10 - Female	0.23	12.50	Died (41 Days) - Wt. Loss at Death 20%
11 - Female	0.25	13.62	Died (38 Days) - Wt. Loss at Death 29%
12 - Male	0.32	15.10	Died (33 Days) - Wt. Loss at Death 42%
13 - Male	0.29	16.08	Died (30 Days) - Wt. Loss at Death 40%
14 - Male	0.31	18.32	Died (11 Days) - Wt. Loss at Death 26%
15 - Male	0.33	20.07	Died (8 Days) - Wt. Loss at Death 22%

DISCUSSION -

As the table indicates, animals receiving a lethal dose of Pydraul F-9 survived for as long as 41 days. The weight losses ranged up to 42% and in all cases there was a general pattern of loss of appetite and severe jaundice.

At autopsy, the surface of the liver appeared normal but the skin was yellow all the way through and the coat had also taken on a yellowish tinge.

Animals receiving doses of 3.4 milliliters per kilogram of body weight and over assumed a kangaroo-like posture a few days after dosing. The underside of the animal as well as the area around the eyes became red and nearly all the hair was lost from these spots. The redness persisted as long as the animal survived.

The M.L.D. level is probably 8.4 - 12.5 milliliters per kilogram of body weight. The reason for the wide range is because one animal died at 10.15 milliliters per kilogram while another lived at 12.25 milliliters per kilogram, showing that the kill point of a slow acting compound such as Pydraul F-9 is not always sharply defined.

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