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Certificate of Analysis

SUBJECT - July 9, 1957

Toxicological Investigation Of Aroclor 1270 Ammonia Reaction Product

TEST CONDUCTED FOR: Monsanto Chemical Company, St. Louis, Missouri

MONSANTO PROJECT NO.: I-57-22 SAMPLE NO. 48; R-574-MBP; 360212

EXPERIMENTAL PROCEDURE -

A) Oral LD_{50} In Rats
The compound was fed by stomach tube to Sprague Dawley strain albino rats as a 25% suspension in corn oil. After the approximate Minimum Lethal Dose was found, groups of rats were fed at 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 Bliss. Observations were made for toxic symptoms and the viscera of selected animals from those succumbing was examined macroscopically. The data are shown in Table I.

B) Skin Irritation In Rabbits
The dry sample was applied to the clipped, intact skin of albino rabbits and observations made over a period of several days for irritation. The data based on the scoring technique of Draize, Woodard and Calvery (J. of Pharm. & Exp. Therapeutics, Vol. 82, No. 4, Dec. 1944), are given in Table II.

C) Eye Irritation In Rabbits
10 milligrams of dry sample were placed in the conjunctival sac of the right eye of each of three albino rabbits and the resulting inflammation scored according to Draize et al. The eye was washed out with warm water after 24 hours. The results are shown in Table III.

SUMMARY -

The Oral LD_{50} for rats was found to be 7.10 grams per kilogram with fiducial limits of 6.72 - 7.56 grams per kilogram.

No irritation developed when the compound was applied to intact rabbit skin.

The compound was classed as a mild eye irritant. Most of the irritation was mechanical in nature. The average maximum score in one hour was 8.6 out of a possible 110.

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TABLE I

THE ORAL LD_{50} OF AROCLOR 1270 AMMONIA REACTION PRODUCT FOR RATS

Animal No. - Sex	Weight Gm.	Dose Gm./Kg.	Fate
1- Female	220	6.0	Survived
2- Female	195	6.0	Survived
3- Male	250	6.0	Survived
4- Female	200	6.0	Survived
5- Female	190	6.0	Survived
6- Male	225	6.6	Died
7- Male	240	6.6	Survived
8- Female	205	6.6	Died
9- Female	185	6.6	Survived
10- Female	200	6.6	Died
11- Male	215	6.6	Survived
12- Male	200	6.6	Survived
13- Male	210	7.2	Died
14- Female	190	7.2	Died
15- Female	220	7.2	Survived
16- Female	205	7.2	Survived
17- Male	230	7.2	Died
18- Male	215	7.2	Survived
19- Female	200	8.0	Died
20- Female	190	8.0	Died
21- Male	225	8.0	Died
22- Male	240	8.0	Survived
23- Male	245	8.0	Died

DISCUSSION -

The Oral LD_{50} was found to be 7.10 grams per kilogram with fiducial limits of 6.72 - 7.56 grams per kilogram. Survival time was 1 - 4 days. There was severe diarrhea, partial paralysis, and irritability.

At autopsy there was liver discoloration, gastrointestinal inflammation, and moderate pulmonary hyperemia.

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TABLE II

SKIN IRRITATION IN RABBITS AFTER APPLICATION OF 'AROCLOR 1270 AMMONIA REACTION PRODUCT'

Animal No.	Numerical Evaluation At The End Of 2 Hours	24 Hours	48 Hours	72 Hours
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
Average	0.0	0.0	0.0	0.0

DISCUSSION -

The compound was non irritating to intact rabbit skin when left in contact for two days. A 25% slurry in corn oil gave the same results over a 24 hour exposure period. All animals received a score of zero throughout the test.

TABLE III

EYE IRRITATION IN RABBITS AFTER APPLICATION OF 'AROCLOR 1270 AMMONIA REACTION PRODUCT'

Animal No.	1 Hours	24 Hours	48 Hours	72 Hours
1	8	4	2	0
2	10	6	4	0
3	8	4	2	0
Average	8.6	4.6	2.6	0.0

DISCUSSION -

Initial discomfort appeared to be a result of a foreign substance in the eye rather than being caused by the chemical makeup of the compound. The average score after one hour was 8.6 out of a possible 110. There was moderate redness of the palpebral conjunctivae, slight edema, and moderate lacrimation. Iris and cornea were practically unaffected. The average score overnite was 4.6. At this time the remaining compound was washed out of the eye with the result that all animals were given a score of zero in 72 hours.

The product was classed as a mild irritant with most of the irritation being mechanical in nature.

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