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REPORT ON THE TOXICITY OF ARESCO

Report made to Monsanto Chemical Company
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G E N E R A L P R O C E D U R E:

Aresco was mixed with olive oil and injected subcutaneously. This method was adopted because the absorption from the intestinal walls varies with the different species. For this reason one is again justified in coming to the conclusion that if a large amount of the material injected subcutaneously is necessary to produce symptoms, its toxicity, is any is found, is slight.

Cats and rats were used in this investigation because it has been shown that cats are more susceptible to compounds of this type than many of the other animals. If both the rat and the cat respond in the same manner, it is reasonable to draw conclusions from the observations as to the toxicity of the product with reference to man.

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Dosage:

> Cats were injected with one gram of this compound in olive oil Three or four repeated doses a week apart were made. Some of the cats were injected with two grams of Aresco per kilo of body weight. One percent solutions of Aresco were given rats in their drinking water. Then the Aresco was removed and ordinary drinking water given in its place.

Cats, when injected with one gram of this compound in olive oil, showed no ill effects and in fact one of the cats gave bith to a litter of kittens. After receiving three or four repated doses a week apart the cats became thin and it was decided to kill them.

When cats were injected with two grams of Aresco per kilo of body weight, the cats died within twenty-four hours. Autopsy failed to show the cause of death. The only organ which showed any abnormal conditions were the kidneys which were a little

congested. The same observations were made on the cats receiving repeated doses of one gram.

Rats were given Aresco in their drinking water. One per cent solutions were tried at first. The first sign of abnormality was the large amount of fluid drunk by the rats. Within a week the rats began to grow thin and developed diarrhea. When the Aresco solutions was removed and ordinary drinking water given in its place the animals began to regain their weight and the diarrhea gradually disappeared. It was only when the Aresco contents of the water was reduced to 0.20 per cent that diarrhea failed to appear. The rats gained in weight and after having been on this concentration (0.20) for two months they were killed and autopsied. The organs were perfectly normal and histological sections were negative. Their blood was examined during the exposure and was found to be normal.

CONCLUSIONS:

As far as I can tell from my observations the action of the Aresco is to lower the surface tension of the cells causing the body to lose weight through the loss of water. So far I have been unable to determine the pathologic action of the compound on the organs and I am inclined to hink that it is due to the direct loss of fluid from the cell.

I am continuing the research myself because I am puzzled as to any change that may take place in the organs. I do not think there is any danger in its use as a means of lowering the surface tension in washing solutions for fruit that have been sprayed with arsenical solutions. The amounts that would dry on the fruit would be within the limits, and I feel well within the limits, which we have found not to cause any ill effects. The same would apply to its use as an insecticide. The amounts that would remain on the surface of fruits could be determined but I feel from work with lead arsenate sprays that it would be very small and incapable of causing any ill effect judging from the results of our experiments.. In the case of arsenate sprays the amounts remaining on fruit is in milligrams per kilo.

I feel that you can safely market this compound for the purposes stated.

Federick B. Flinn

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