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TO:

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NTA/ Pringle report

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1)

Thank you for sending me this. Do you have any more detailed information on "Ramel/ Natural Science Res. Council Sweden " and his genetic experiments? Without some quantitative data it is difficult to evaluate the assertion that the genetic effects actually described are in fact insignificant.

2) Have you calculated the impact of NTA discharge on nitrate contamination of surface waters? Besides the possibility of new kinds of eutrophication, I need merely mention the concerns that have been expressed by Commoner and by Epstein.

Mr. Johnson's speech (I have gotten the actual text) included a further cautionary remark that was overlooked by the reporter for C&EN.

Sincerely,



Dr. Ramel (23) of the Natural Science Research Council of Sweden has reported on his research into the possible genetic effects of NTA. His studies were conducted with mice and fruit flies (*Drosophila melanogaster*). He reported some loss of chromosomes with his massive doses of NTA. His overall conclusions were that NTA caused no significant genetic effects. With mice, he found no mitotic effect, although there was a slight increase in uterine death rate with large doses of NTA.

ABS, however, is currently a bigger factor in DWV piping than is PVC. This fact, along with the as-yet undecided battle for the water main and sewage line markets now dominated by polyethylene and styrene rubber (among plastics), is causing Goodrich and others to keep their hands in both ABS and PVC.

DETERGENTS: NTA Is Best

In the continuing search for substitutes for phosphate builders in detergents, nitrilotriacetic acid (NTA) may be the best one found so far, according to Charles C. Johnson, Jr. administrator of HEW's Environmental Health Service. Speaking at the 43rd annual convention of the Soap and Detergent Association (SDA) in New York City, Mr. Johnson said that NTA is 70% degradable by biological sewage treatment. Animal experiments have revealed no genetic effects, he added, and no evidence of acute toxicity from NTA. *But...*

Phosphate builders, which have been branded by environmentalists as major pollutants, are detergent-enhancing ingredients. Among other functions, they soften water, sequester dirt, buffer, and prevent stains. Spokesmen for the detergent industry claim that there is no safe, adequate substitute for phosphates that can be supplied economically. About 2 billion pounds of phosphate builders are consumed per year. NTA production capacities total about 100 million pounds per year.

Industry spokesmen also maintain that phosphorus is only one of some 15 to 20 nutrients that can cause eutrophication (overfertilization of

choking algal growths and dra consumption of the oxygen).

But government agencies continue to apply pressure for the elimination of phosphates in detergents because these are the most readily controlled nutrients. One suggestion from Congress is that phosphate control should be announced on product labels, allowing housewives a choice between polluting and not polluting. Industry spokesmen feel that housewives will opt for cheap clear power, which requires phosphates.

Mr. Johnson says that government agencies are also looking closely at respiratory and dermatological problems associated with the enzymes in some detergent formulations. There is increasing concern for workers who have incurred ailments from dusts, fumes, chemicals, and noise. And Administration-backed bill concerning general occupational health and safety is now before Congress.

Elizabeth Hanford, executive director of the President's Committee on Consumer Interests, says that her office has received a number of complaints about detergents, including claims that washing machine linings peeled after use of enzyme detergents.

General Electric's Dr. Leo Loeb told the SDA convention audience that enzymes in detergents have necessitated additional research in laundry appliances. The material requiring the most careful scrutiny, Dr. Loeb says, is the porcelain enamel finish inside the typical washer.

The quiet revolution going on in the fiber makeup of the typical household wash load—synthetics are displacing cotton—will force innovations in detergent formulations, too, Dr. Loeb predicts. Laundry hardware and detergent products have been tuned over the years for washing cotton.