



University of Cincinnati Medical Center

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DEPARTMENT OF ENVIRONMENTAL HEALTH
KETTERING LABORATORY
(513) 872-5700

July 19, 1974

Dr. Mitchell Zavon, Medical Director
Ethyl Corporation
Ethyl Tower
451 Florida Street
Baton Rouge, La. 70801

re. Kehoe Data Study Proposal

Dear Mitch:

As you requested, this letter will provide an estimate of effort and cost of analyzing Dr. Kehoe's data and that the initial efforts will attempt to more narrowly define the activities for the project.

Dr. Kehoe's balance studies date back to the late 1930's and involve twenty different subjects. Six of these have been oral ingestion studies only and the remainder, both oral and inhalation uptake studies. Four oral studies, including E.B., I.F., M.R., and S.W. as subjects, have been reported in some detail in the Harben lectures and in several other papers. The data reported, by comparison to the amount of information available from the studies, was very limited. Data on eleven of 14 subjects used in the more recent inhalation studies have been published, also in a very limited way. We are now sorting out the large amount of data in Dr. Kehoe's files to identify what all is there.

I would suggest four types of analyses:

1. Changes in health parameters during the different rates of oral and inhalation exposures. Changes in reticulocyte counts, stippling, ALA, porphyrins, appetite, body weight and several other parameters have not been reported (nor analyzed, I would judge).
2. Statistical variation. There has been almost no quantitative expression of variation in the many measurements made during the study on each individual or comparing one individual to the next. Seasonal changes could be important.
3. Kinetics. I would like to quantitate the rates of change and the relationships between lead in the blood, urine, feces, retention, etc. seen with different rates and types of exposures. The changes at the beginning of the exposures, during week-ends of non-experimental exposures and at the termination of the exposures should be characterized in order to study the rapidity of response and to express these changes on the basis of mathematical models if possible.

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4. Contributions to body burden. As I indicated to you, I have some questions about the Golberg and Wetherill studies. If their assumptions are valid, we can compare Dr. Kehoe's data to theirs. Also some of the data from my lead burden studies may be useful here.

I will expect to direct under the general guidance of Dr. Kehoe, the study effort and Mrs. Sue Rasche, my assistant, will help with handling of the data. Dr. Peter Gartside, Statistician in the Division of Epidemiology and Biostatistics, is available for brief consultations and will guide the post doctoral fellow who will be assigned to the project.

I propose a one year study to be reviewed at three month intervals to determine continuation of the project.

Estimated costs are as follows:

Personnel:

Dr. Stanley Gross	Principal Investigator	50%	\$ 8,508
	Post-Doctoral Assistant	25%	2,500
Mrs. Sue Rasche	Research Technician	50%	4,248
	Secretarial Assistance	10%	720
			<u>\$ 15,976</u>

Fringe Benefits:

15.2% of Applicable Salaries (13,476)	\$ 2,048
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Other Direct Cost:

Computer Services	1,000
Misc. Supplies	400
	<u>\$ 1,400</u>

Overhead:

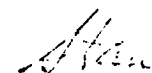
60.00% of Salaries (15,976)	\$ 9,586
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Quarterly Amount	\$ 7,252	TOTAL	\$ 29,010
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Any trips for myself or others in connection with this study would also be borne by the Ethyl Corporation.

If you have any questions, please call me at 872-5780 or leave messages at 872-5748.

Best regards,



Stanley B. Gross, Ph.D.
Assistant Professor of Environmental Health
(Toxicology Division)

cc: Dr. Kehoe
Dr. Suskind
Dr. Hammond
Dr. Gartside
Mr. Curtin

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