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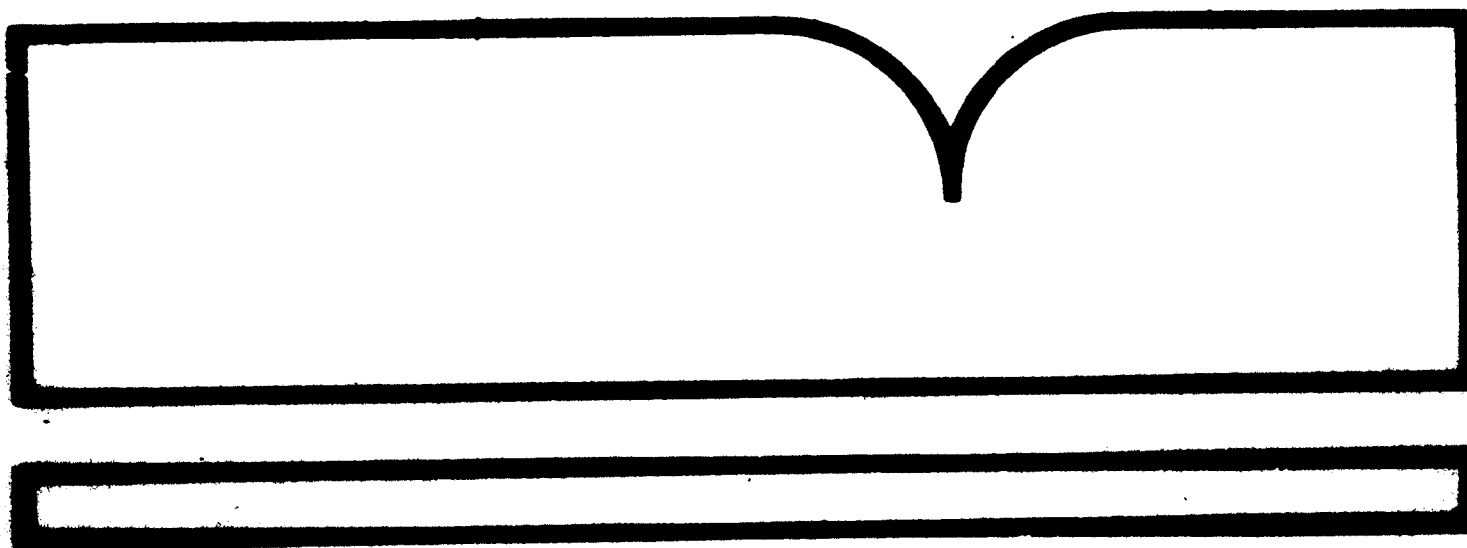
Gastric Response to Methyl Methacrylate Vapor

Temple Univ., Philadelphia, PA

Prepared for:

National Inst. for Occupational Safety and Health, Cincinnati, OH

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GASTRIC RESPONSE TO METHYL METHACRYLATE VAPOR

TERMINAL PROGRESS REPORT

DHEW Grant #0H00518-02

**Martin F. Tansy, Ph.D.
Principal Investigator**

March 29, 1976

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16. Abstract (Limit: 200 words) This terminal progress report summarizes the experiments designed to determine or confirm the effects of methyl methacrylate on the gastrointestinal system in dogs and rats. There is a direct action of methyl methacrylate on the gastrointestinal motor effector systems. Significant blood chemical changes were observed in rats exposed to 116 ppm of methyl methacrylate vapor in air for six months. Similar concentrations for three months caused reductions of visceral and subcutaneous fat, and after three and six months liver damage was observed. (Grant No. OH 00518-02)		13. Type of Report & Period Covered	
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PRINCIPAL INVESTIGATOR - Martin F. Tansy, Ph.D.

INSTITUTION - Temple University School of Dentistry

PROJECT TITLE - Gastric Response to Methyl Methacrylate Vapor

Summary Statement. The proposed experiments were designed:

(a) To confirm preliminary data which indicated that inhalation of less than LD₅₀ doses of monomeric methyl methacrylate vapor produces gastric atonia in acutely exposed rats.

(b) To confirm preliminary data which indicated that inhalation of less than LD₅₀ doses of monomeric methyl methacrylate vapor produces a decrease in gastric secretory volume and an increase in titratable gastric acid output in acutely exposed rats.

(c) To determine whether significant gastric secretomotor effects are produced in rats consequent to chronic exposures to monomeric methyl methacrylate vapor at a concentration equal to the currently accepted industrial limit for occupational exposure.

(d) To determine whether gastric motor effects which have been observed to be produced by rats which are acutely exposed to less than LD₅₀ doses of monomeric methyl methacrylate vapor are reflex in nature.

As evidenced by the data of the following communications:

1. Chronic Biological Effects of Methyl Methacrylate Vapor I. Body and Tissue Weights, Blood Chemistries, and Intestinal Transit in the Rat. M.F. Tansy, F.M. Kendall, S. Benhayem, F. Hohenleitner, W.E. Landin and M. Gold, Environmental Research, 11:66-77, 1976.
2. Gastrointestinal Motor Inhibition Associated with Acute Exposure to Methyl Methacrylate Vapor. M.F. Tansy, J.S. Martin, S. Benhayem, W.E. Landin, and F.M. Kendall, Journal Pharmaceutical Sciences, (April, 1977)
3. Evidence for the Direct Inhibitory Effect of Methyl Methacrylate Vapor on Gastrointestinal Smooth Muscle. M.F. Tansy, J.S. Martin, W. Landin, and S. Benhayem, Clinical Research, 23:258, 1975 (abstract)