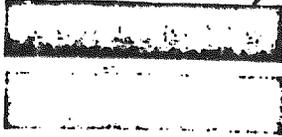


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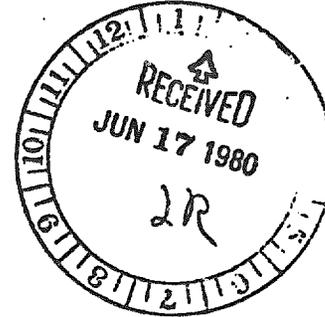
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June 12, 1980

Mr. Frank Kover, Chief  
Chemical Hazard Identification Branch  
Assessment Division  
Office of Pesticides & Toxic Substances  
TS 792  
Environmental Protection Agency  
Washington, D.C. 20460



Dear Mr. Kover:

The enclosure is a notice of substantial risk being brought to your attention in conformity with Section 8(e) of TSCA. This notice was prompted by a verbal report of the results of a recent toxicity study. The results indicate a level of toxicity that was not expected. We are informing all other manufacturers of organosilicon chemicals of these findings.

We have specifically discussed these results with representatives of Union Carbide Corporation, who is the major U.S. producer of the chemical substance. It is my understanding that EPA can expect to hear from Union Carbide Corporation on this subject at a later date.

Sincerely,

Charles W. Lentz  
Director  
Health & Environmental Sciences

CWL:rl

Enclosure

**PINS**

**MAY 19 1987**

**LYNN MARCUS**

June 12, 1980

Document Control Officer  
Chemical Information Division  
Office of Toxic Substances (WH-557)  
Environmental Protection Agency  
401 M Street, S.W.  
Washington, D.C. 20460

RE: Notification of Substantial Risk Under Section 8(e), Toxic  
Substances Control Act, of Toxic Effects.

Chemical Identity:

Trimethoxysilane, CAS Registry Number 2487-90-3,  $(\text{CH}_3\text{O})_3\text{SiH}$

General:

Dow Corning Corporation is notifying EPA about the results of a recent subchronic inhalation study on trimethoxysilane because an unexpectedly high toxic effect has been observed. The acute toxicological properties of trimethoxysilane have been known for many years and are represented by the following data:

Acute Oral $\text{LD}_{50}$ (rats)	= 9.33 ml/kg
Eye Response (rabbit)	= Moderately irritating
Skin Response (rabbit)	= Slightly irritating
Dermal $\text{LD}_{50}$ (rabbit)	= 6.3 ml/kg
Inhalation $\text{LC}_{50}$ (4 hrs., rats)	= ~125 ppm

Trimethoxysilane has been a chemical in commerce for many years and has been regarded as a toxic substance that should be handled with great care. Information available to us indicates health incidents due to exposure have been rare and of a minor nature. Dow Corning's activities have been carried out in small quantities and by persons having a high degree of technical training. No adverse health effects have been experienced at Dow Corning.

New Test Results:

A 28-day subchronic inhalation study, sponsored by Dow Corning Corporation, was conducted at Bio-Research Laboratories, Ltd., Montreal Quebec. An interim verbal report was received from Dr. Charles Breckenridge, Head of the Inhalation Department, on May 28, 1980 and is summarized as follows:

1) Treatment:

10 male and 10 female Sprague Dawley rats were exposed 5 days a week, seven hours per day for four weeks to Trimethoxysilane at chamber concentrations of 0.5, 5 and 10 parts per million, and to room air. Chamber temperature and relative humidity were maintained within acceptable limits during treatment.

2) Clinical Observations:

During the second and third weeks of treatment, 60% of the rats of the high dose group became moribund and died. At 5 ppm, 40% of the rats had died by the end of the fourth week. In accordance with standard practices, the exposure was terminated after twenty-one (21) days for the high dose group with the surviving rats being sacrificed to provide the best clinical and pathological information. No mortality was observed in either the air controls or the low dose treated group.

Clinical signs of high dose and intermediate dose male and female animals consisted of general weakness coupled with moderate to severe lung congestion. Significant decreases in both food consumption and body weight were also observed in these animals.

3) Clinical Pathology:

The blood biochemical parameters of male and female animals in the low and middle dose groups surviving until term were within normal ranges. High dose females sacrificed in a moribund condition, however, deviated significantly from controls.

A similar pattern of results was observed for hematological parameters with intermediate and high dose males and females showing significant deviations from control values.

4) Gross Pathology:

Lung congestion was observed in animals from all groups, including the control animals, and most likely represents agonal changes occurring upon sacrifice of the animal. Some treatment related changes noted in the intermediate and high dose groups consisted of a failure of the lungs to collapse upon opening the thoracic cavity, the presence of focal reddening of the lung and the presence of areas of atelectasis.

Document Control Officer  
June 12, 1980  
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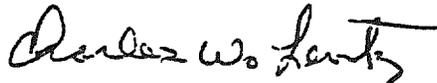
5) Histopathological Findings:

Subacute to chronic bronchitis and bronchiolitis were observed in all male and female rats exposed to Trimethoxysilane at concentrations of 5 and 10 ppm. No similar lesions were noted in animals treated at concentrations of 0.5 ppm or in the air controls.

It is expected that the final written report dealing with this 28-day subchronic inhalation study will be completed in July. A copy of this report will be forwarded to your office as soon as it is available. Dow Corning is informing other organosilicon chemical manufacturers of these recent toxicological findings.

Very truly yours,

DOW CORNING CORPORATION



Charles W. Lentz  
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P. O. Box 1767  
Midland, MI 48640  
(517) 496-4796

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