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ATTN: SECTION 8(E) COORDINATOR
Office of Pollution Prevention and Toxics (OPPT)
US Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

Dear Sir/Madam:

The purpose of this letter is to inform you under Section 8(e) of TSCA of preliminary toxicology testing information we have recently received from our contractor concerning the acute inhalation (rat) toxicity of m-tetramethylxylenemonoisocyanate (m-TMI) (CAS No. 2094-99-7).

We have previously conducted guinea pig inhalation studies on m-TMI and shared the results of those tests with the Agency. The acute one hr LC_{50} for guinea pigs was 0.75 mg/L. In this test m-TMI was presented to the animals in aerosol form. M-TMI is currently categorized as "highly toxic" by the European Union (EU). The EU considers materials with 4 hr LC_{50}s below 0.25 mg/L to be highly toxic by inhalation. Since our previous guinea pig results indicated that m-TMI should not be considered a highly toxic material by inhalation, we decided to further investigate m-TMI's acute inhalation hazard by performing a 4 hr LC_{50} inhalation study in rats.

The study we are reporting was initiated by exposing a group of 10 (5/sex) rats to an m-TMI aerosol at 0.32 mg/L for 4 hours. This exposure resulted in the death of all animals within 48 hr post-exposure. A second exposure of 10 (5/sex) rats to a concentration of 0.076 mg/L (79% vapor; 21% droplet aerosol) resulted in the death of all animals within 96 hours. A third group of 10 (5/sex) rats was exposed to a vapor concentration of 0.023 mg/L with no mortality.

Clinical signs consistent with exposure to an irritant (e.g. closing of eyes, erythema of the feet and ears and irregular respiration) were noted in the two highest exposure groups. No significant clinical signs were noted at 0.023 mg/L to date.

Pulmonary congestion was the most significant gross pathology observation seen at necropsy for the rats who died subsequent to m-TMI exposure.

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We have conducted a 28 day inhalation study with this material. In this study no effects were seen when a group of 10 (5/sex) rats were exposed to 0.003 mg/L m-TMI for 6 hr per day. Based on the results of this 28 day study, we have calculated a proposed permissible exposure limit (PEL) of 0.0003 mg/L.

Based on this low PEL, the known irritation of this material and other isocyanates, we believe that there is no need to change the PEL or our current recommendations for handling m-TMI at this time. M-TMI has a low vapor pressure 0.004 torr at 25°C so ambient exposure to its vapor is unlikely. It has been manufactured/utilized commercially without serious incident for approximately 10 years. Once this preliminary data has been reviewed, we plan to communicate the final results within our MSDS and further evaluate our m-TMI product label and DOT classification as required by regulation.

A final report of this study has not yet been received. We will send a copy of the final report as soon as it becomes available. This letter **does not** contain confidential business information.

Please direct all communications on this subject to Ms. Patricia Ann Vernon, Associate Toxicologist at the address above or call her at (201) 357-3375.

Sincerely,

Peggy Geimer, M.D.
Corporate Medical Director