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November 10, 1998

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(Attn: Section 8(e) Coordinator)
Office of Toxic Substances
US EPA
401 M Street, SW
Washington, DC 20460

8EHQ-98-14314

CERTIFIED MAIL

TSCA 8(E) SUBSTANTIAL RISK NOTICE ON: 1,2,2,2-tetrafluoroethanesulfonyl fluoride

Dear 8(e) Coordinator:

This letter is to inform you of central nervous system effects in up to 6 workers believed to have been caused by exposure to 1,2,2,2-tetrafluoroethanesulfonyl fluoride, CAS# 2127-74-4, a site limited intermediate currently under research and development by 3M.

Upon discussion of options for scale-up, the technicians who have been involved in processes isolating the above chemical began to share experiences they had had. As discreet occurrences there had not been any association with the chemical, but the similarity of symptoms and the operation step common to each (changing a silica gel column) indicates the tetrafluoroethanesulfonyl fluoride, or impurities or byproducts associated with it, is the common cause.

Reported symptoms include tunnel vision, impaired time perception, impaired motor control, impaired short term memory, disturbed depth perception, light-headedness, and (in one worker only) shortness of breath. Exposures lasted only minutes, yet symptoms lasted up to 12 hours. In a test to determine potential exposure from column change-out, levels of 400 – 500ppm were measured. Apparently, although this test was conducted in a first floor room with negative pressure and good local exhaust, one worker on the 2nd floor experienced very similar CNS effects. We believe his exposure was much less than 400 ppm. This information comes from preliminary interviews with the workers. Formal interviews and medical histories will be taken shortly for each person.

A preliminary rat acute exposure test at 1000-2000ppm showed CNS signs (increased motor activity, tail pointing, followed by immobility). Necropsy revealed pulmonary hemorrhage. It is unclear whether CNS signs were due to the agent or to the pulmonary edema. 3M will be conducting more studies to better understand exposure and toxicity.

The R & D operation has been suspended pending further investigation.

Please contact Dr. William Weppner, 3M Chemicals Director Environmental, Health, Safety and Regulatory Affairs, 651-736-6374, for further information.

Sincerely,

Charles Reich,
Vice President, 3M Chemicals

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