

REVISED COPY

E. I. du Pont de Nemours and Company
Haskell Laboratory for Toxicology and Industrial Medicine
Elkton Road, Newark, Delaware 19711

HASKELL LABORATORY REPORT NO. 664-80 [REDACTED]

Material TestedHaskell No.Other CodesAmmonium Perfluoro-
caprylate [REDACTED]

12,037

[REDACTED]

Study Initiated/Completed

May 1980 to July 1980

Material Submitted by[REDACTED]
Polymer Products Dept.,
[REDACTED]Ammonium Perfluorocaprylate [REDACTED] Respirator EvaluationPurpose:

[REDACTED] To evaluate M.S.A. Combination Type GMA-H cartridges (part #464029)² against dust for breakthrough.

Procedure:

[REDACTED] The cartridge pairs were tested against an average concentration of 0.56 mg/m³ generated in a dust generator and introduced into an air flow of 60 liters per minute maintained at 50% relative humidity and ambient room temperature. Both upstream and downstream airborne concentrations were monitored for [REDACTED] dust by filter paper cassettes backed up with an impinger sampling train to absorb possible [REDACTED] vapors. Aliquot of the aqueous extracts of the filter paper (1) and aliquots of the aqueous impinger samples were analyzed colorimetrically for [REDACTED] by the Methylene Blue Method reported by the Plastics Department ([REDACTED]). After 40 hours of continuous exposure no detectable amount of [REDACTED] dust or vapor was found downstream on the breathing side of the cartridge pairs tested. The minimum detectable limit was 1.5 µg of [REDACTED]. Based on a 420 liter air sample this would calculate out to be .004 mg/m³.

Results:

<u>Cartridge Pair</u>	<u>Mean Upstream Airborne Concentration mg/m³</u>	<u>Exposure Time hours</u>
1	0.67 ± 0.33	40
2	0.48 ± 0.15	54

(1) Gelman glass fiber filters Type A/5 47mm (0.3µm)

(2) Part # 464029 contains six #460842 cartridges.

Company Sanitized. Does not contain TSCA CBI

Discussion:

The results demonstrate that the M.S.A. combination type GMA-H cartridges effectively filter [redacted] dust and vapor concentrations at the test conditions for a minimum of 40 hours. The detection limit of .004 mg/m³ is two and one-half times lower than the proposed acceptable exposure limit (AEL); therefore, these cartridges could be used at least for one 40 hour week. However, recommendations for cartridge use should be made by an industrial hygienist fully aware of the workplace exposures and airborne concentrations.

Report by:

Norman W. Henry, III

Norman W. Henry, III
Research Chemist

Approved by:

George E. Bettinger

George E. Bettinger
Manager, Technical Services Division

NWH:jms

Date Issued: September 15, 1980

HL Report No.: 664-80
[redacted]