



DOW CHEMICAL U.S.A.

TEXAS DIVISION
FREEPORT, TEXAS 77541

ENVIRONMENTAL HEALTH REPORT

VINYL CHLORIDE CONCENTRATIONS
GENERATED BY USING POLYVINYL
CHLORIDE TO CLEAN THE POLYETHYLENE
EXTRUDERS AT B-2405 TS & D LABORATORY

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AUTHOR B. S. Horvath
B. S. Horvath
CHECKED R. L. Daniel
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Summary

Low concentrations, 0.13 and 0.23 ppm, of vinyl chloride were found in the breathing zone of an operator who was using PVC scrap to clean extruder dies of polyethylene. The levels found were below both present and proposed vinyl chloride exposure standards. Respiratory protection while performing this operation will not be required.

R&S 020533

Distribution

G. J. Easterling B-2405
* R. C. Schumann B-2405
File ✓

(2) H. R. Hoyle 1707 Bldg.-Midland
* F. D. Axe - Pittsburg
* C. E. Caldwell - OCD
* R. R. Langner 607 Bldg.-Midland
* C. L. Sercu - Cleveland
* C. E. Halphen - Plaquemine

INTRODUCTION

Environmental Health Services was asked to determine the level of vinyl chloride to which a man using PVC to clean dies after a run of polyethylene might be exposed.

METHODOLOGY

The operator who did the die cleaning was fitted with an SKC Inc. Model 222-3SI personnel sampling pump using a standard SKC 150 mg. charcoal absorption tube. The sampler was worn during two duplicate runs of approximately 1/2 hour each.

The charcoal tubes were analyzed by the Chromatography section of the Central Lab Group using carbon disulfide extraction and vapor phase chromatography.

CONCLUSIONS

1. Low levels of vinyl chloride are generated while cleaning dies of polyethylene using scrap PVC.
2. The hazard to employees, in the light of what is currently known, is minimal because of the following reasons:
 - a. Very low concentrations (0.13 and 0.23 ppm).
 - b. Short exposure duration (approximately 30 minutes per extruder).
3. Respiratory protection is not needed during this operation.

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