



cc: [REDACTED]

HASKELL LABORATORY

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SEAFORD PLANT

INDUSTRIAL HYGIENE SURVEY DURING APPLICATION OF
[REDACTED]
(Haskell Laboratory Report #283-77 [REDACTED])

On March 31, 1977, an industrial hygiene survey was made at the Seaford Plant for a trial application of [REDACTED]
[REDACTED]

Observed Process

The steps of the process were:

- An aqueous dispersion of [REDACTED] was pumped from an open drum to application trays of sixteen applicator units (eight on each side) of Spinning Machine Number 24.
- Nylon threads passed through the applicator units where the [REDACTED] was applied to the moving threads by direct contact with a rotating applicator wheel.
- The nylon then passed through a temporarily installed finish overlay applicator where [REDACTED] was applied by spray.
- The nylon was then piddled into piddling cans. The cans were transported to the feed area serving Draw Machine Number 4.
- The nylon from ten piddling cans was manually threaded through ring guides leading to the Draw Machine. There the strands were tied to a leader inside the Draw Machine Chamber.
- The Draw Machine was started and the nylon was drawn by passing over draw rollers kept at $60 \pm 5^{\circ}\text{C}$.
- The nylon emerged from the Draw Machine and passed through a crimping machine where a 1% solution of [REDACTED] was applied as an overlay. This solution is essentially squeezed off during crimping and the drawn rope is piddled into a collecting box.
- During the final collecting, a tramper descends at frequent intervals to compress the crimped rope so that an acceptable amount of the nylon can be collected in each box.

Observed Exposures or Potential Exposures

- Odors of acetic acid were detected at:
 - the open drum containing the [REDACTED]
 - the applicator boxes of the spinning machine when the box doors were open for cleaning by the operator
 - the piddling can after [REDACTED] was applied to the nylon
- An aerosol of [REDACTED] was plainly visible outside the inlet and outlet ends of the [REDACTED] applicator.
- Manual contact with the rope occurred during first piddling, draw box threading, crimper threading and final piddling/collection. The operator who doffed the yarn at the first piddling can wore a leather glove on the hand used to grab the rope. The operator who was cleaning the applicator boxes of the spinning machine wore rubber gloves on both hands. The operators who handled the rope at the other locations were inconsistent in their glove usage.

Recommendations

The following recommendations are made. Most of these were made orally at the time of the survey.

- Air sampling for acetic acid should be done near the [REDACTED] feed drum, and at the applicator boxes while the box doors are open.
- Air sampling for total particulate should be done at the point of highest aerosol visibility within one foot of each end of the [REDACTED] applicator box.
- The leather gloves which some operators wear for comfort when handling the thread and rope should be examined periodically for signs of penetration of finishes/overlays to the inner surface, especially at seams. The tackiness of [REDACTED] finish, and the transfer of some of the finish to the hands, suggest that leather gloves continue to be worn to minimize adherence of other materials to the hands.

Conclusions

Except for the items discussed, the operation appeared well controlled with no problems.

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Approved: _____

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Company Sanitized. Does not contain TSCA CBI