

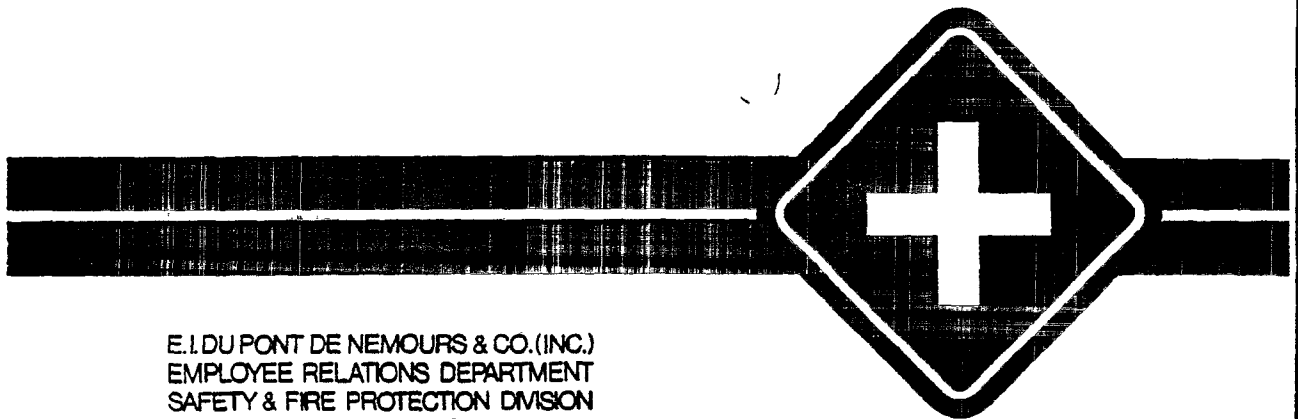
ER-8670

PLAINTIFF'S
EXHIBIT
DUP-2005

Occupational Health Survey

BEAUMONT WORKS
POLYMER PRODUCTS DEPARTMENT
HOUSTON, TEXAS

REPORT NO. 1022-H
MAY 1, 1981



E.I. DU PONT DE NEMOURS & CO. (INC.)
EMPLOYEE RELATIONS DEPARTMENT
SAFETY & FIRE PROTECTION DIVISION
WILMINGTON, DELAWARE 19898

DUP 0502296

DU 001940

SUMMARY

The overall rating was Good.

Organization for administration of OH programs, housekeeping and facility maintenance and radiation control are excellent.

Scope of information on carcinogenic and embryotoxic materials should be included in documentation of annual training.

Appropriate maintenance, cleaning and laboratory chemicals should be included in the collection of MSDS's or similar documentation.

The respirator program is good. It is recommended that employees who are now required to use half-mask respirators for which they have not been fit-tested be fit-tested as soon as possible. The need for a full-face escape mask for ammonia fumes should be evaluated and the breathing air systems should be brought into compliance with Engineering Standard S 1 H.

Selection of gloves is fair. Permeation data should be considered with other significant factors in choosing the most appropriate glove, with special attention given to carcinogenic materials.

The air monitoring program is excellent. Plant personnel should be trained on procedures to handle asbestos. Labeling of asbestos-free insulation should be considered.

Welders should be trained to place the exhaust hood so the required airflow can be maintained.

Spill procedures are fair and need to be upgraded.

Consumption of food or beverages should not be allowed in a laboratory where carcinogens are handled.

Plans to mark hearing protection zones at 87 dBA for 12-hour shifts are endorsed.

DUP 0502297

DU 001941

GENERAL

The third occupational health survey of the Beaumont Works was conducted by the undersigned engineers April 6-10, 1981. Escorts during the visit included members of area supervision and the occupational health coordinator.

The purpose of the survey was to evaluate occupational health programs and practices and to provide suggestions for improvements as needed. Practices, procedures and facilities for identifying, evaluating and controlling environmental factors that may cause illness, impaired health and significant discomfort to employees were addressed. The Beaumont Works was rated Good on a scale of Excellent, Good, Fair and Poor, with the first three being degrees of satisfactory performance.

This report summarizes the observations and recommendations presented to the manager and staff at the conclusion of the survey. Details and many of the specific recommendations developed during the survey are not included since these were discussed in field observations.

We would appreciate being advised within the next few months concerning the actions taken on recommendations in this report and your response to any of the field observations with which you disagree.

SAFETY AND FIRE PROTECTION DIVISION

N. D. Johnson
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DUP 0502298

DU 001942

ORGANIZATION AND ADMINISTRATION

Program Administration

The organization for administration of occupational health programs is excellent. The Environmental Health Committee of the Central Safety Committee is composed of representatives of each plant group and the plant industrial hygienist. Routine meetings are held monthly and the minutes are issued to members of the Central Safety Committee.

Occupational health staff personnel are very knowledgeable in their areas of expertise. Extensive use has been made of ESD training courses. The plant OH coordinator is a certified industrial hygienist and the OH coordinator of the petrochemicals operation has successfully passed the first phase of certification.

Communications

No. Ref-
erence is
okay.

Communication of occupational health information is good. Employees are trained annually on the health hazards in their areas and new employees are trained as they enter the area. This training is documented with the names of the employees and the dates of the training. It is recommended that the scope of the information on chemicals with carcinogenic or embryotoxic potential be included in the documentation. The maintenance organization has begun work on a program intended to eliminate deficiencies in their training programs for occupational health. Additional personnel have been committed to the task and completion is scheduled for this year. This program is commended.

Yes

Although plant policy was changed in late 1980 to eliminate disposable dust masks in favor of the Comfo II respirator, several members of supervision indicated that the disposable masks would be used for dusty operations and asbestos work. Some employees were noted with the disposable style of mask in their possession. It is recommended that significant communications of this type be highlighted to assure understanding and compliance.

Chemical Hazard Information

This area is good. Significant progress has been made in the description of raw, intermediate and finished production materials in the four page Material Safety Data Sheet (MSDS) format.

Partial
Yes & No.

Support materials and catalysts are also included in the collection. It is recommended that maintenance chemicals, industrial cleaning agents and appropriate laboratory chemicals (as described during the survey) be included in the collection of MSDS's.

yes.

The Hypalon® Area prepared training sheets on carbon tetrachloride and chloroform for employee use, which omitted information on the carcinogenic potential of these chemicals. It is recommended that the description of the carcinogenic potential be included in employee training material.

Personal Environment Record System (PERS)

The site is currently entering work history data for all production operators and maintenance mechanics. First line supervisions' work history is also being entered. Exposure histories will be entered during the second quarter of 1981.

Medical Involvement

Yes

The site is currently without a full-time physician and is using a contract physician. The previous physician had toured the plant areas, but due to his ill health the frequency had declined significantly during the past year. The nurses are able to respond to plant areas during ambulance runs but have limited knowledge of plant areas. When a new physician is hired he should be involved in the occupational programs, as appropriate, and should make periodic tours of the plant areas to become familiar with employee working conditions. The nurses should also tour periodically, with or without the physician. Sanitary conditions of lunchrooms, restrooms and change rooms should be checked by the medical staff.

Contractor Operations

Contractor operations as they relate to occupational health are adequate. Programs and procedures are in place to protect contractor employees from Du Pont created hazards and vice versa. Few contractor operations were going on during the survey.

PROTECTIVE EQUIPMENT

Respirators

The respiratory protection program is good. The quantitative fit-testing equipment and program are excellent. However, there are some aspects of the program that need improvement.

- Yes
- Disposable Masks. While previous plant policy allowed the use of the 3M 8710 for dust, two other types of masks (not site approved) were brought onto the site, a mercury vapor mask and a 3M 9920 mask used by a welder. It is recommended that the disposable masks be purged from the site and not readmitted unless a fit test is provided.

- Yes
- Half-face Masks. When the disposable masks were removed from use, half-face Comfo II's were issued for use in those applications. Some employees have not been fit-tested or retested within the last year for these respirators. It is recommended that fit testing be scheduled as soon as possible for all persons required to wear respirators who have not previously been tested.

Done.
Not necessary.

The Methanol Area has placed several half-face masks with ammonia cartridges in the reformer building. These are for escape in the event of an ammonia leak from the Ammonia Area. Since ammonia is an eye irritant it is recommended that the need for a full face respirator be evaluated.

Done

- Air Line Respirator. The site installs tees (Hansen Couplings) on its air line respirators for attaching escape cylinders when necessary. This arrangement is convenient and probably does not affect the degree of protection provided but, technically, it appears to void the NIOSH approval. Although one OSHA compliance officer who saw the arrangement considered it acceptable, other OSHA personnel may not. It is recommended that this practice be discussed with the departmental Energy and Environmental Affairs office who may want to ask for legal input.

Yes.

The breathing air systems should be modified to include the filter recommended in Engineering Standard S 1 B. A sign should also be provided to have the pressure adjusted correctly and blow down the air line prior to use.

Yes.

- Self-Contained Breathing Apparatus. There was confusion between area personnel and the safety department on their respective responsibilities for inspecting and maintaining the self-contained breathing apparatus on the plant. It is recommended that training be provided to appropriate area personnel in the proper inspection and maintenance of the equipment.

Gloves

*We are
doing this*

The selection of gloves to protect personnel from contact with hazardous chemicals is fair. Permeation rates have been considered along with other factors in selecting gloves for handling TEL and AN. However, the site uses a number of other chemicals, some with carcinogenic potential, for which skin absorption may be a significant route of exposure, e.g., carbon tetrachloride and perchloroethylene. It is recommended that permeation data such as that developed at Haskell Laboratory be considered along with other significant factors in choosing the most appropriate glove for all hazardous chemicals which may affect the skin or may be absorbed through the skin. For the compounds with carcinogenic potential impermeable gloves should be used as dictated by the nature of the operation.

EXPOSURE HAZARDS - IDENTIFICATION, EVALUATION AND CONTROL

Chemicals

The plant is commended for its excellent air monitoring program. Evaluation and verification of sampling and analytical methods is done by very knowledgeable plant personnel. The areas follow up where high exposure is evaluated. Basis for the evaluation is the LOGAN program as outlined in Engineering Standard S 12 T.

*No, Not
necessary.*

The sampling priorities are established on basis of Engineering Standard S 11 T by knowledgeable personnel but the priority determination has not been documented. It is recommended that the evaluation be documented to facilitate review whenever a change occurs which is likely to affect employee exposure.

*Yes.
Yes, partial*

Although asbestos is handled infrequently by plant personnel, field observations showed some inconsistency in the knowledge about who handles asbestos and what protective equipment is required. It is recommended that all involved parties be informed on the content of the plant's asbestos procedure and the involvement of Du Pont employees in handling asbestos. It is recommended that new insulation be identified as asbestos-free. In case of future removal, unnecessary and time-consuming precautionary measures can be avoided.

Ventilation

The ventilation program is good.

Yes. Plans to install new laboratory hoods in the Polymer Products (PP) Laboratory (project costs \$700,000) are endorsed. In the meantime, the maximum opening whereby the minimum required airflow can be obtained should be marked. The sashes should not be opened further when chemicals are handled in the hoods.

Yes. Already doing. All local exhaust hoods for chemical control should be monitored for airflow annually, e.g., the hood over the rubber mill in the PP Laboratory was not checked.

Yes. Plans to replace the canopy hood in the water treatment laboratory of the Methanol Area are endorsed. The hood should be designed so fumes are drawn away from the operator and not through the breathing zone.

Yes. Three observations indicated that welders are not aware that the required airflow of 100 fpm in the welding zone has to be maintained. It should be considered to post the distance, within which the required airflow can be maintained. It gives the welder a practical reminder of how close he should place the exhaust opening.

Emergency Procedures

Yes. Spill procedures are fair and should be upgraded. Advice for protection in case of a spill is partially covered in different documents, e.g., MSDS's, emergency procedures primarily for environmental control and standard operation procedures. It is recommended that concise, readily accessible procedures be developed to protect people, environment and property. Based on the property of a chemical or a group of chemicals, definitions of major/minor spills should be established. The protective equipment, type of glove, respirator, acid suit, etc. should be selected and defined. The cleanup procedure and proper disposal should be covered. The requirements for reentry, e.g., air monitoring results should be specified. Drills are helpful training tools in implementing these procedures.

Housekeeping and Facility Maintenance

This program is excellent. Leaks are generally contained and areas roped off.

Food Control

Yes. Food control is good. The interiors of microwave ovens need better cleaning. Thermometers are recommended for all refrigerators to assure that temperatures are kept at or below 45° F.

It is recommended that the consumption of food or beverage not be allowed in a laboratory where chemicals with carcinogenic potential are handled, e.g., as now practiced in the PP Laboratory.

Noise Control

The noise control program is good. Annual noise surveys are performed and boundaries for hearing protection are drawn at 90 dBA. Since employees work 12-hour shifts, it is planned to mark hearing protection zones at 87 dBA within 1981. This plan is endorsed.

Where noise exceeds permissible limits, compliance plans have been developed. It is recommended that the rationale for the decision to initiate or delay engineering controls be added. Success or failure of engineering controls should also be recorded.

Radiation/Laser

These programs are excellent. Source monitoring is in compliance with the appropriate standards.

Heat Stress

Several jobs have been evaluated for heat stress potential. Work/rest cycles have been established for some tasks. It is recommended that evaluation of current and future data be continued as planned to establish work/rest cycles where necessary.

PREVIOUS REPORT

The following items of the previous survey have not been adequately addressed:

- Improvement in documenting information to employees who handle carcinogens
- Material Safety Data Sheets for certain laboratory chemicals
- Glove selection based on permeation data
- Noise boundary at 87 dBA for 12-hour shift (Nordel® Area).

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