

# POTTSTOWN PLANT

## EVALUATION OF OSHA COMPLIANCE ISSUES

November 16, 1989

by Mike Buczynski

Action Items Updated  
January 30, 1990



Corporate Medical Department

INTRODUCTION

OCC 10611

To: Bill Lessig December 13, 1989

From: Mike Buczynski *Michael A. Buczynski* cc: Robert Gilligan, M.D.

Subject: Industrial Hygiene Program - Pottstown

I visited the **Pottstown** facility on **November 15 and 16** for the purpose of evaluating the industrial hygiene needs identified by the Industrial Hygiene Questionnaire. The Industrial Hygiene Questionnaire concentrated on compliance issues in the following six areas:

- 1) Hazard Communication
- 2) Respiratory Protection
- 3) Noise - Hearing Conservation
- 4) Chemical Exposure
- 5) Substance Specific Standards
- 6) Access to Exposure and Medical Records

### GENERAL INFORMATION

The Pottstown facility is part of the Plastics & Polymers group. The plant is made up of three independently operated entities: the Resin Plant, the Fabricated Products Plant, and the Pilot Plant.

The Pottstown facility was acquired from Firestone Plastics in late 1980. Previous to the acquisition, the site had housed a tire plant along with the plastics facilities.

The Resin Plant manufactures suspension and dispersion types of PVC homopolymer and copolymer resins. It employs approximately 275 hourly and 86 salaried persons, including site service personnel. It has

the capacity to produce 120 million pounds of dispersion, and 72 million pounds of suspension resins per year. The plant operates 3 shifts per day, seven days per week.

PVC resins are manufactured by reacting vinyl chloride monomer (VCM) or VCM and vinyl acetate in the presence of initiators and various dispersing and suspending agents. The reaction is exothermic and takes place under pressure in temperature controlled reactors. Product is shipped in bulk in rail cars and tank trucks as well as in bags.

The Fabricated Products Plant takes various resins acquired on the open market and blends them with other ingredients such as plasticizers, stabilizers, fillers and pigments. The blended material is then Banburyed, milled and calendered into films on three of four calender lines. In addition to PVC resins, the plant also calenders ABS resins. Product films are shipped as rolls to either the Salisbury Plant for printing or to customers. This operation will be shut down January 1, 1990.

The Pilot Plant has the capacity to produce either dispersion or suspension resins in 50 to 2,400 gallon reactors. It employs 8 hourly and 5 salaried personnel.

In addition, the site houses a boiler house, wastewater treatment plant, technical service laboratory and research facilities.

cc: B. Donahue  
B. Driscoll  
T. Jennings  
S. Kemp  
G. Lloyd  
D. Lull

EVALUATION

OCC 10614

## POTTSTOWN PLANT

### Evaluation of OSHA Compliance Issues

#### HAZARD COMMUNICATION

The plant has a written HazCom program, and their labelling system follows the Hazardous Materials Identification System (HMIS) except in some instances where a batch ticket containing all of the ingredients is used on a batch tank. This is perfectly acceptable for process vessels. A complete set of MSDSs is kept in the following locations:

#### Raw Materials for the Areas

Building #1, Reactor Safe Room  
Building #1, Stripper Safe Room  
Building #1, Relief Safe Room  
  
Building #2, Reactor Safe Room  
Building #2, Stripper Safe Room  
Building #2, Relief Safe Room  
  
Power House  
  
Tank Farm (All Bldg. #1, #2, and  
Tower Water & Effluent Chems.)

#### All Raw Materials

Foreman's Office  
Shipping & Receiving Office  
Analytical Lab  
Control Lab  
Maintenance Office  
Pilot Plant  
Prod. Manager's Office  
Plant Manager's Office  
Environmental Office  
Safety Office  
Engineering, Staff  
Engineering, Process

The chemical inventory for both the Chemical and Calender Plants are up to date except for new CAS numbers and new HMIS ratings received from OxyChem Product Stewardship. These very recent changes need to be added.

**Action Plan:** Add new CAS numbers and HMIS codes to existing chemical inventory.

**Target Date:** January 31, 1990.

Training as required by this standard has been completed, but employees who transfer must be tracked and given proper training.

- Action Plan:**
- 1) An individual designated for training must be selected.
  - 2) A tracking mechanism for Hazard Communication training of transfers must be developed and instituted.

**Target Date:** December 31, 1989.

The tracking system for the receipt of new chemicals and their introduction into the workplace is very elaborate (see attached flowchart). In the course of a walkaround, all containers observed had appropriate labels and their respective HMIS codes. The procedure for informing contractors about the chemicals on site is weak.

**Action Plan:** Revamp and organize contractor policy for information about the chemicals on site. Contractor policy should include the selection and use of proper personal protective equipment. MSDS information should include target organs. This policy should be completed before the maintenance shutdown in July 1990.

**Target Date:** June 1, 1990.

### RESPIRATORY PROTECTION

The plant has a written respiratory protection program. This program has not been reviewed annually. It was last reviewed on March 4, 1987.

**Action Plan:** Review the written respiratory protection program on an annual basis.

**Target Date:** December 31, 1989.

The training of workers in the use and limitations of their respirators is not current.

**Action Plan:** Improve the respirator training program to include proper storage of respirators. It was observed that many full-face respirators were stored in lockers that were full of dust. Even though the individual is responsible for the maintenance and cleaning of his own respirator, an auditing procedure by a responsible foreman is needed to ensure proper cleaning and storage.

**Target Date:** February 1, 1990.

### NOISE

The Pilot Plant and Power House are the only areas that still need sound level surveys. This will complete the sound level survey of the whole facility. Areas with noise are appropriately posted. Representative 8-hour dosimetry data is very old (early 1980s). The equipment used is a General Radio® dosimeter, which is very old.

**Action Plan:** Complete the sound level surveys in the Pilot Plant and Power House. The data will then be used to develop a monitoring strategy for representative 8-hour dosimetry to be conducted. Order new Metrosonics db-3100 in sufficient quantity to conduct representative dosimetry. Finally, conduct representative 8-hour

dosimetry for all job classifications identified as having the potential of being exposed to noise at levels 85 dB and above over an 8-hour TWA.

- Target Date:**
- 1) Complete sound level survey and order equipment by December 31, 1989.
  - 2) Develop sampling strategy for dosimetry by February 1, 1990.
  - 3) Conduct representative 8-hour dosimetry by April 30, 1990.

A copy of the OSHA noise standard is made available to all employees, but it must be posted.

- Target Date:** December 31, 1989, for the posting of a copy of 29 CFR 1910.95 in the workplace.

### CHEMICAL EXPOSURE

There are two main plants at Pottstown:

- 1) A Chemical Plant, which is a PVC plant.
- 2) A Calendering Plant, which produces PVC film in a variety of colors and thicknesses as required by the customer.

The Calendering Plant will be shut down on December 15, 1989, with the exception of the Color Department (see Substance Specific Standards: Lead). During the past year, the ventilation on the Banbury mixers and the calendering line were measured and the ventilation was improved. The closing of the Calendering Plant alleviates the responsibility of air monitoring schedules since there will be no active processes.

The Chemical Plant, Pilot Plant and Color Department will have to have a sampling strategy developed and representative air monitoring of

hazardous substances present for compliance with OSHA PELs and ACGIH TLVs, whether they are 8-hour TWA or Ceiling or STEL values.

There is no formal ventilation survey in the chemical plant since there is very little local exhaust. Most of the ventilation is of the general dilution type and is addressed by an on-going preventive maintenance system. The safe rooms are under positive pressure.

**Action Plan:** Develop a sampling strategy for monitoring all chemical and physical hazards in the Chemical and Pilot Plants. This sampling strategy will include a monitoring schedule with completion dates.

**Target Date:** February 1, 1990.

### **SUBSTANCE SPECIFIC STANDARDS**

The Pottstown facility must comply with the OSHA standards which regulate the following specific substances.

- **Asbestos** - There is asbestos at the Pottstown facility. It is present in the pipe insulation. OxyChem has embarked on an identification and removal policy for all asbestos-containing insulation. As a result, all asbestos at the Pottstown facility has been identified and is slated for removal as funds permit. The asbestos removal is conducted by a licensed asbestos removal contractor. To maintain control of asbestos-related activities, Gerry Lloyd and appropriate selected personnel from maintenance should attend an EPA-certified asbestos removal course.

**Action Plan:** Select a site where the EPA-approved course is taught and send the appropriate attendee.

**Target Date:** March 30, 1990.

- **Lead** - The Color Department mixes pigments, some of which contain lead and chromate, to produce the required color in the vinyl film.

Even though the Calendering Plant will be shut down, the Color Department will remain in operation. Over the years, industrial hygiene air monitoring was conducted until the pigment's physical state was changed from a dust to an oil dispersion. Medical monitoring is conducted (blood leads) and all values are well below any standards requiring action.

- **VCM** - The Chemical Plant uses vinyl chloride monomer and produces the polyvinyl chloride resins. There is a very extensive respirator program in place for employees in the VCM areas, which is in compliance with 29 CFR 1910.1017 (g)(4). Proper signs are posted warning of the cancer-suspect-agent area in accordance with 29 CFR 1910.1017 (L)(1). Employees interviewed indicated they have had extensive training as the hazard communication standard requires. They knew where to look or whom to contact for information. While on the job, full-face respirators are kept in canvas bags which are readily accessible to air hook-ups in the control room.

The control rooms, or safe rooms as they are called, are maintained under positive pressure. This can be checked by a monometer in the room. While conducting the walkaround and observing the monometer, it appeared that the safe room was under negative pressure. This was due to the fact that the doors to enter the safe room were wedged open. Once this was corrected, the monometer registered a positive pressure in the room. While walking up the stairway to go to the third-floor safe room, it was observed that all exit doors were wedged open. Finally, during the walkaround, a white alarm light in the stairwell was on.

According to the procedure, there are four alarm lights which indicate various air levels of vinyl chloride monomer. These alarm lights are the result of air monitoring by an extensive fixed point monitoring system. As per the procedure (see attachment), if a white alarm light is on *"immediately evacuate affected area, re-enter only if wearing air line respirator (or airpack)."*

As stated earlier, the white light was on, but workers were observed on the floor without the respiratory protection outlined above. The safe room doors were open. When interviewed, the employees stated that no one had turned the alarm light off. Clearly, this is a breakdown in communication of procedure and deserves close scrutiny by management.

**Action Plan:** Review VCM respiratory and alarm procedures with respective job classifications in the chemical plant and ensure that they are adhered to.

**Target Date:** March 1, 1990.

### **EMPLOYEE EXPOSURE MONITORING - VCM**

Representative air monitoring of employee exposure to VCM in all job classifications is conducted. Approximately 150 to 175 employees are monitored each month. The current method is the use of a 3M badge. The badge is uncapped and clipped on to an employee's time card. The employee is relied upon to place the badge on his lapel and remove it at the end of the shift and deposit it uncovered in a collection box. John Sperat collects the badges, caps them, and sends them to the lab (in-house) for analysis.

Jack Larkin, chemist, is responsible for the analysis using a NIOSH-approved method, and extreme care is taken to obtain the analysis, complete with standards comparison and quality assurance.

After the sample is analyzed, the calculations to determine the 8-hour TWA always assumes an exact 8-hour (480 minute) sampling time. This simply does not occur every time, especially since the employee is relied upon to place his/her badge and remove it with *no* time-on/time-off recorded.

**Action Plant:** Change the computer program which assumes sampling time of exactly 8 hours, and regain control of the placement of the badge with recorded time-on and time-off. Placement and removal of the badge should be by a qualified individual trained in industrial hygiene.

**Target Date:** February 1, 1990.

### ACCESS TO RECORDS

Due to the awareness of the requirements of notification by the Vinyl Chloride Standard, employees know where records are kept, their right of access, and are knowledgeable of the requirement of the Hazard Communication Standard.

### REMARKS

A useful tool for communication is the monthly safety meeting. The three subjects that should be included on an annual basis are:

- 1) Noise
- 2) Respiratory Protection
- 3) Hazard Communication, including access to medical and exposure records.

By incorporating these three into the safety meetings, the plant will fulfill the OSHA requirements.

MAB:dah

ACTION PLANS

OCC 10623

## **POTTSTOWN PLANT**

### **ACTION PLANS**

**For Evaluation of November 16, 1989  
by Mike Buczynski**

**01-89      Action Plan:**    Add new CAS numbers and HMIS codes to  
existing chemical inventory.

**Target Date:**    January 31, 1990.

**02-89      Action Plan:**    An individual(s) designated as HazCom  
trainer for new employees and transfers  
must be selected.

**Target Date:**    December 31, 1989.

**03-89      Action Plan:**    A tracking mechanism for Hazard  
Communication training of transfers  
must be developed and instituted.

**Target Date:**    December 31, 1989.

**04-89      Action Plan:** Revamp and organize contractor policy for information about the chemicals on-site. Contractor policy should include the selection and use of proper personal protective equipment. MSDS information should include target organs. This policy should be completed before the maintenance shutdown in July 1990.

**Target Date:** June 1, 1990.

**05-89      Action Plan:** Review the written respiratory protection program on an annual basis.

**Target Date:** December 31, 1989.

**06-89      Action Plan:** Improve the respirator training program to include proper storage of respirators. It was observed that many full-face respirators were stored in lockers that were full of dust. Even though the individual is responsible for the maintenance and cleaning of his own respirator, an auditing procedure by a responsible foreman is needed to ensure proper cleaning and storage.

**Target Date:** February 1, 1990.

- 07-89      Action Plan:** Complete the sound level surveys in the Pilot Plant and Power House.
- Target Date:** Complete sound level survey and order equipment by December 31, 1989.
- 
- 08-89      Action Plan:** The data will then be used to develop a monitoring strategy for representative 8-hour dosimetry to be conducted. Order new Metrosonics db-3100 in sufficient quantity to conduct representative dosimetry.
- Target Date:** Develop sampling strategy for dosimetry by February 1, 1990.
- 
- 09-89      Action Plan:** Conduct representative 8-hour dosimetry for all job classifications identified as having the potential of being exposed to noise at levels 85 dB and above over an 8-hour TWA.
- Target Date:** Conduct representative 8-hour dosimetry by April 30, 1990.

**10-89      Action Plan:**      A copy of the OSHA noise standard is made available to all employees, but it must be posted.

**Target Date:**      December 31, 1989, for the posting of a copy of 29 CFR 1910.95 in the workplace.

**11-89      Action Plan:**      Develop a sampling strategy for monitoring all chemical and physical hazards in the Chemical and Pilot Plants. This sampling strategy will include a monitoring schedule with completion dates.

**Target Date:**      February 1, 1990.

**12-89      Action Plan:**      Select a site where an EPA-approved asbestos removal course is taught and send the appropriate attendee.

**Target Date:**      March 30, 1990.

**13-89      Action Plan:**      Review VCM respiratory and alarm procedures with respective job classifications in the chemical plant and ensure that they are adhered to.

**Target Date:**      March 1, 1990.

**14-89      Action Plan:**    Change the computer program which assumes sampling time of exactly 8 hours, and regain control of the placement of the badge with recorded time on and time off. Placement and removal of the badge should be by a qualified individual trained in industrial hygiene.

**Target Date:**    February 1, 1990.

QUESTIONNAIRE

OCC 10629

INDUSTRIAL HYGIENE

QUESTIONNAIRE

Facility: Pottstown, PA  
Prepared By: R. DENAHUE / G. LLOYD  
Date: 5-15-89

**I. HAZARD COMMUNICATION**

All plants must have a written HazCom program in place which addresses container labeling, material safety data sheets (MSDSs), and training. All new employees must be given training within 30 days of hire and before being assigned to work with hazardous chemicals. The written program should be reviewed annually and signed by the facility manager. The following items are designed to insure that your facility is in compliance with the HazCom standard.

|                                                                                                                                                                                    | YES                                 | NO                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| a. Do you have an up-to-date chemical inventory?                                                                                                                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b. Do you have a written hazard communications program?                                                                                                                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c. Has there been a hazard determination made on all hazardous chemicals?                                                                                                          | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d. Has everyone been trained in the hazards and properties of the chemicals he/she works with within 30 days of the introduction of the chemicals?                                 | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e. Does <del>this</del> training include target organs?                                                                                                                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f. Are all appropriate containers, tanks, etc. labeled?                                                                                                                            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g. Is the H M I S labeling system used?                                                                                                                                            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| h. Are these labels in good condition and legible?                                                                                                                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| i. Do you have an MSDS file that is up-to-date and readily accessible?                                                                                                             | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| j. Is there a designated individual responsible for assuring that workers are informed of MSDS changes/additions that results in a new hazard being introduced into the workplace? | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

\* PRODUCTS VESSELS ARE LABELED. LABELING PROVISIONS MAY BE FOUND WITH  
SECONDARY USE CONTAINERS, TANKS, CANS, ETC

**I. HAZARD COMMUNICATION (Con't)**

|                                                                                                                                                                                              | YES      | NO            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------|
| k. Is there a procedure in place that requires the Purchasing Department to request and receive a MSDS on all new chemical purchases?                                                        | <u>✓</u> | <u>      </u> |
| l. Is there a tracking system for new chemicals to assure that they do not leave the receiving dock until a MSDS has been received, reviewed and distributed to the appropriate departments? | <u>✓</u> | <u>      </u> |
| m. Do you have a procedure for informing contractors about the chemicals on site?                                                                                                            | <u>✓</u> | <u>      </u> |

*- individual - sitting down -*

## II. RESPIRATORY PROTECTION

If the facility uses or provides employees with respirators of any kind (even nuisance dust disposables) or emergency SCBAs (such as Scott Air Paks), the facility must have a respiratory protection program which contains, as a minimum, the following elements:

|                                                                                      | YES                                 | NO                                     |
|--------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------|
| a. Do you have a written respirator program?                                         | <input checked="" type="checkbox"/> | <input type="checkbox"/>               |
| • Is the program reviewed annually?                                                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>    |
| b. Have the respirators been selected for the type of contaminant protected against? | <input checked="" type="checkbox"/> | <input type="checkbox"/>               |
| c. Have workers been trained in the use and limitations of their respirators?        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> *  |
| Does their training include:                                                         |                                     |                                        |
| 1. an opportunity to handle the respirator?                                          | <input checked="" type="checkbox"/> | <input type="checkbox"/>               |
| 2. having it fitted properly?                                                        |                                     |                                        |
| • Qualitative                                                                        | <input checked="" type="checkbox"/> | <input type="checkbox"/>               |
| • Quantitative                                                                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>    |
| 3. is the fit test current (annual)?                                                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>    |
| 4. if asbestos is handled at your facility, is fit testing conducted semi-annually?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> ** |
| 5. testing its facepiece-to-face seal (beard, glasses, etc.)? <i>refer to</i>        | <input checked="" type="checkbox"/> | <input type="checkbox"/>               |
| 6. wearing it in normal air for a long familiarity period?                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>    |
| 7. wearing it in a test atmosphere?                                                  | <input checked="" type="checkbox"/> | <input type="checkbox"/>               |
| 8. is the training documented?                                                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>               |
| d. Have respirators been individually assigned, where appropriate?                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>               |
| e. Are respirators regularly cleaned? <i>in-house respirator</i>                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>    |
| (This requirement does not apply to disposables.)                                    |                                     |                                        |
| • Are they disinfected?                                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>               |
| f. Are respirators stored in a clean, convenient and sanitary location?              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>    |

OCC 10633

\* TRAINING IS NOT CURRENT.

\*\* ASBESTOS NOT ROUTINELY HANDLED; 2 INSULATORS MAY DO SOME SMALL SCALE REMOVAL.

## II. RESPIRATORY PROTECTION (Con't)

|                                                                                                                                                             | YES                                 | NO                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| g. Have workers been instructed to inspect respirators for wear or damage including a leak check, before and after each use?                                | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| h. Are monthly inspections of SCBA equipment conducted and records maintained?                                                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| i. Is Grade D breathing air utilized for all supplied-air respirators? <i>Hi Temp alarm</i>                                                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| • Is oxygen content checked?                                                                                                                                | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| j. Do supervisors maintain awareness of possible changes in workplace exposure conditions and respirator effectiveness through frequent random inspections? | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| k. Has each worker in the respiratory protection program been medically certified for ability to wear?                                                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| l. Is his/her status reviewed periodically?                                                                                                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

\* CHECKED WEEKLY FOR VAPOR CONCENTRATIONS

\* MAXO CLINIC WILL IDENTIFY PEOPLE WHO MAY HAVE PROBLEMS REGARDING RESPIRATORY PROTECTION. IF PERSON DOES NOT PARTICIPATE IN VOLUNTARY PHYSICAL EXAM PROGRAM WE DO NOT KNOW OF THEIR ABILITY TO WORK.

**III. NOISE - HEARING CONSERVATION**

There is no OSHA requirement for a written noise program. The regulation does require that we determine whether our employees are exposed at or above the "action level" of 85 dBA as an eight-hour time-weighted average (TWA). If they are, the affected employees must be given training, access to hearing protection and audiometric testing. Our practice has been to include all plant employees in the program if there are any sources of noise above 90 dBA in the plant.

You should have an up-to-date noise survey on file to show the compliance officer. Noise surveys should be updated whenever new noise sources are added, or at least every two years. If indicated by the survey, dosimetry should be performed on employees in high noise environments.

|                                                                                                                      | YES                                 | NO                                  |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| a. Has a sound level survey of the facility been performed to identify areas above 85 dBA within the past two years? | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b. Are areas above 90 dBA posted with signs?                                                                         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c. Are workers offered an annual audiometric exam?                                                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d. Has representative 8-hour dosimetry been conducted on those individuals identified by the sound level survey?     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e. Are employees given annual training?                                                                              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f. Does this training include effects of noise on <i>body</i> the ear, and the principles of noise generation?       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| g. Is a copy of the OSHA Noise Standard 1910.95 readily available for employees to examine?                          | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| h. Is proper hearing protection provided for identified employees?                                                   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| • Are employees trained in care and use?                                                                             | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| i. In areas over 90 dBA, is hearing protection usage enforced?                                                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

*Revised  
from NIOSH*

**III. NOISE - HEARING CONSERVATION (Con't)**

|                                                                                            | YES                                 | NO                       |
|--------------------------------------------------------------------------------------------|-------------------------------------|--------------------------|
| j. Does the program include documentation of:                                              |                                     |                          |
| 1. Area and personal sampling?                                                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Audiometric testing?                                                                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Annual training?                                                                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| k. Is the documentation readily available?                                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| l. Is special training given to employees who have experienced a standard threshold shift? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**IV. CHEMICAL EXPOSURE**

For all chemicals in your facility for which there are OSHA Permissible Exposure Limits (PELs) or Threshold Limit Values (TLVs), employee exposure should be determined or estimated. A listing of these limits & values may be obtained from Corporate Industrial Hygiene. Sometimes, a careful review of the exposure potential will result in the conclusion that exposure is minimal or non-existent. In other cases, it will be necessary to actually sample to determine the extent of exposure. If exposure (without regard to the use of personal protective equipment) is above the action level (1/2 of the limit), then a program of routine sampling must be established, and an engineering solution investigated. Chemicals for which there are substance-specific standards (asbestos, formaldehyde, vinyl chloride, etc.) should be sampled routinely to generate sufficient data to allow exposure to be estimated with more confidence. (See section V.)

|                                                                                                                                                                               | YES                                   | NO                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------|
| a. If as a result of sampling an overexposure is believed to exist, have the individual employees who were monitored been provided with proper personal protective equipment? | <input checked="" type="checkbox"/>   | <input type="checkbox"/>                          |
| • Is its use enforced?                                                                                                                                                        | <input type="checkbox"/>              | <input checked="" type="checkbox"/>               |
| b. Is there an action plan to engineer out the source of overexposure?                                                                                                        | <input type="checkbox"/>              | <input type="checkbox"/> *                        |
| c. Is ventilation checked regularly and results documented?                                                                                                                   | <input type="checkbox"/>              | <input checked="" type="checkbox"/>               |
| d. Have representative exposure samples been taken for all chemicals with OSHA-PELs or ACGIH-TLVs at your facility?                                                           | <input type="checkbox"/>              | <input checked="" type="checkbox"/> VCM SOME DUTY |
| e. Are samples taken on a scheduled basis?                                                                                                                                    | <input type="checkbox"/>              | <input checked="" type="checkbox"/>               |
| f. Are they representative of an 8-hour TWA?                                                                                                                                  | <input checked="" type="checkbox"/>   | <input type="checkbox"/>                          |
| g. Are area STEL and Ceiling samples taken?                                                                                                                                   | <input type="checkbox"/>              | <input checked="" type="checkbox"/>               |
| h. Are employees notified of monitoring results? <i>Letter written</i>                                                                                                        | <input checked="" type="checkbox"/> * | <input type="checkbox"/>                          |
| i. Is there prompt follow-up on high exposures?                                                                                                                               | <input checked="" type="checkbox"/>   | <input type="checkbox"/>                          |
| j. Is there proper documentation of:                                                                                                                                          |                                       |                                                   |
| 1. Monitoring data?                                                                                                                                                           | <input checked="" type="checkbox"/>   | <input type="checkbox"/>                          |
| 2. Sampling/Analytical procedures?                                                                                                                                            | <input checked="" type="checkbox"/>   | <input type="checkbox"/>                          |
| 3. Results                                                                                                                                                                    | <input checked="" type="checkbox"/>   | <input type="checkbox"/>                          |

\* No major overexposures exist. There is an environmental action plan to reduce VCM emissions some of which will affect employee exposure.

\*\* Only employees exposed above the PEL are notified

**V. SUBSTANCE SPECIFIC STANDARDS**

If your facility handles chemicals which have been specifically regulated by OSHA as listed below, the requirements of that standard(s) must be met. If there are any questions in this area, please call Corporate Industrial Hygiene.

Substance Specific Standards have been promulgated by OSHA for the following:

- |                                     |                                 |
|-------------------------------------|---------------------------------|
| 1. Asbestos                         | 14. Dimethylaminoazobenzene     |
| 2. Coal tar pitch volatiles         | 15. N-Nitrosodimethylamine      |
| 3. 4-Nitrobiphenyl                  | 16. Vinyl chloride              |
| 4. a-Naphthylamine                  | 17. Inorganic arsenic           |
| 5. Methyl chloromethyl ether        | 18. Lead                        |
| 6. 3,3'-Dichlorobenzidine and salts | 19. Coke oven emissions         |
| 7. bis-Chloromethylether            | 20. Cotton dust                 |
| 8. b-Naphthylamine                  | 21. 1,2-Dibromo-3-chloropropane |
| 9. Benzidine                        | 22. Acrylonitrile               |
| 10. 4-Aminodiphenyl                 | 23. Benzene                     |
| 11. Ethyleneimine                   | 24. Formaldehyde                |
| 12. b-Propiolactone                 | 25. Ethylene oxide              |
| 13. 2-Acetylaminofluorene           |                                 |

Have the specific requirements of these standards been addressed as to...

|                                                                      | YES                                 | NO                                  |
|----------------------------------------------------------------------|-------------------------------------|-------------------------------------|
| a. Sampling to measure action level?                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b. PEL, ceiling and STEL concentration?                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c. Change rooms & shower facilities?                                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d. Medical monitoring?                                               | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| e. Medical removal from workplace exposure?                          | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f. Recordkeeping & training?                                         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| g. Is there a written program where required?                        | <u>N/A</u>                          | <u>N/A</u>                          |
| h. Have regulated areas been established and demarcated as required? | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

VCM - enforce PPE wearing - esp during a release

## VI. ACCESS TO EXPOSURE AND MEDICAL RECORDS

OSHA regulations require that employees be informed annually that they have a right to see and/or obtain a copy of their exposure and medical records. Should an employee ask to see his/her data, we have fifteen days to comply. Requests for exposure data will likely be minimized if you discuss the results of any sampling with employees as they are obtained. The notification of right of access can be done by posting an appropriate announcement on the bulletin board, or by discussion during a safety or communications meeting. If you use the latter method, you must document that fact. Records are required by the standard to be preserved and maintained for the duration of employment, plus thirty years.

|                                                                                                                | YES                                   | NO                       |
|----------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------|
| a. Are employees informed annually of their right to exposure data and medical records, both past and present? | <input checked="" type="checkbox"/>   | <input type="checkbox"/> |
| b. Are employees notified of their personal exposure data as collected?                                        | <input checked="" type="checkbox"/> # | <input type="checkbox"/> |
| c. Can you meet the 15-day time frame to supply requested records?                                             | <input checked="" type="checkbox"/>   | <input type="checkbox"/> |
| d. Do the employees know of the existence, the location and availability of records?                           | <input checked="" type="checkbox"/>   | <input type="checkbox"/> |
| e. Do employees know the designated person who maintains these records?                                        | <input checked="" type="checkbox"/>   | <input type="checkbox"/> |
| f. Do employees know of their right of access?                                                                 | <input checked="" type="checkbox"/>   | <input type="checkbox"/> |
| g. Is a copy of the standard (OSHA 1910.20) readily available for employee examination?                        | <input checked="" type="checkbox"/>   | <input type="checkbox"/> |

# ONLY EMPLOYEES COVERED ABOVE THE AGE ARE NOTIFIED

COMPLIANCE  
SUMMARY

OCC 10640

POTTSTOWN PLANT

Summary of  
Compliance Questionnaire

(Percent Complete)

|                 | <u>Date<br/>Evaluated</u> | <u>HazCom</u> | <u>Respiratory<br/>Protection</u> | <u>Noise</u> | <u>Chem<br/>PEL</u> | <u>Substance<br/>Specific</u> | <u>Medical<br/>Notification</u> | <u>Open<br/>Action Items</u> |
|-----------------|---------------------------|---------------|-----------------------------------|--------------|---------------------|-------------------------------|---------------------------------|------------------------------|
| Buczynski Audit | 11/16/89                  | 85            | 67                                | 93           | 54                  | 100                           | 100                             | 14                           |
| Buczynski Phone | 1/30/90                   | 85            | 91                                | 93           | 54                  | 100                           | 100                             | 10                           |

OCC 10641

ATTACHMENTS

OCC 10642

OCCIDENTAL CHEMICAL CORPORATION  
PVC RESINS DIVISION  
POTTSTOWN, PENNSYLVANIA

RESIN DEVISION AREA SPECIFIC TRAINING OUTLINE

1. LOCATION OF INVENTORY OF HAZARDOUS MATERIALS IN THE WORK AREA:

INVENTORY OF ALL OF OUR RAW MATERIALS IS KEPT IN THE FRONT OF EACH RAW MATERIAL SAFETY DATA SHEET (MSDS) BOOK THAT HOUSES THE SHEETS FOR THE MATERIALS THAT YOU USE IN YOUR AREA.

THE MSDS BOOK CONTAINING ALL OF THE PLANTS MSDS'S AND THE INVENTORY IS LOCATED IN THE FOREMAN'S OFFICE ALONG WITH THE WRITTEN HAZARD COMMUNICATION PROGRAM. BOTH OF THESE ARE AVAILABLE TO ALL EMPLOYEES.

THE WORK AREA MSDS BOOKS ARE LOCATED IN THE WORK AREA AS FOLLOWS:

RAW MATERIALS FOR THE AREAS

BUILDING #1, REACTOR SAFE ROOM  
BUILDING #1, STRIPPER SAFE ROOM  
BUILDING #1, RELIEF SAFE ROOM

BUILDING #2, REACTOR SAFE ROOM  
BUILDING #2, STRIPPER SAFE ROOM  
BUILDING #2, RELIEF SAFE ROOM

POWER HOUSE

TANK FARM (ALL BLDG #1 & #2 &  
TOWER WATER & EFFLUENT CHEMS.

ALL RAW MATERIALS

FOREMANS OFFICE  
SHIPPING & RECEIVING OFFICE  
ANALYTICAL LAB  
CONTROL LAB  
MAINTENANCE OFFICE  
PILOT PLANT  
PROD. MANAGERS OFFICE  
PLANT MANAGERS OFFICE  
ENVIRONMENTAL OFFICE  
SAFETY OFFICE  
ENGINEERING, STAFF  
ENGINEERING, PROCESS

2. POSSIBLE ROUTES OF ENTRY FROM EXPOSURE TO HAZARDOUS MATERIALS:

THERE ARE THREE ROUTES OF ENTRY THAT A HAZARDOUS MATERIAL MAY TAKE TO ENTER THE BODY. THESE ARE INHALATION, INGESTION, AND SKIN CONTACT. THE MOST LIKELY ROUTE FOR THOSE MATERIALS PRESENT IN A POWDER OR DUST FORM IS INHALATION- INHALING THE DUST WHILE WORKING DIRECTLY WITH THE MATERIAL. DUST MASKS ARE PROVIDED AND ARE REQUIRED TO BE WORN WHEN WORKING WITH ANY SUCH MATERIAL. REMEMBER THAT INHALING THE DUST CAN ALSO HAPPEN WHEN YOU ARE DOING OTHER WORK IN A DUSTY AREA, SUCH AS SWEEPING THE FLOOR, OR DOING MAINTENANCE WORK ON DUST EQUIPMENT. INHALATION OF HAZARDOUS MATERIALS CAN ALSO OCCUR BY BREATHING IN VAPORS OF MATERIALS THAT VAPORIZE AT ROOM TEMPERATURE OR WHEN HEATED.

OTHER ROUTES OF ENTRY ARE POSSIBLE BUT LESS LIKELY TO HAPPEN. FOR EXAMPLE; INGESTION, OR TAKING THE MATERIAL IN BY MOUTH, CAN OCCUR IF YOU EAT OR SMOKE WITHOUT FIRST WASHING YOUR HANDS AFTER WORKING WITH THE MATERIALS, OR IF YOU EAT IN AN AREA CONTAMINATED WITH DUST CONTAINING HAZARDOUS MATERIALS.

SOME MATERIALS MAY BE ABSORBED THROUGH THE SKIN WHICH INCLUDES THE EYES. LIQUIDS ARE MOST LIKELY TO USE THIS ROUTE OF ENTRY INTO THE BODY. BUT SOME DRY MATERIALS CAN ALSO BE ABSORBED IN THIS MANNER. NUMEROUS LIQUIDS AND DRY MATERIALS CAN BE IRRITATING TO THE SKIN WHEN PRESENT ON THE SURFACE OF THE SKIN OR IN THE EYES.

OCCIDENTAL CHEMICAL CORPORATION  
ALL AREAS, POTTSTOWN, PA

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IX. REQUIRED RESPIRATORY PROTECTION IN RESPONSE TO VINYL CHLORIDE  
WARNING LIGHTS AND ALARMS

BUILDING I, BUILDING II, THE TANK FARM, BLEND TANK AND SPRAY DRYER AREAS AND PILOT PLANT ARE EQUIPPED WITH CONTINUOUS MONITORING SYSTEMS FOR VINYL CHLORIDE CONCENTRATION LEVELS. THIS SYSTEM INCLUDES A SERIES OF LIGHTS AND ALARMS TO WARN EMPLOYEES WHEN VARIOUS CONCENTRATION LEVELS HAVE BEEN REACHED SO THAT PROPER PROTECTIVE MEASURES CAN BE TAKEN.

THE SYSTEM ALERTS EMPLOYEES AT FOUR CONCENTRATION LEVELS, EACH DESIGNATED BY A DIFFERENT COLORED LIGHT AND AUDIBLE ALARM. THE LIGHT COLORS, CORRESPONDING VINYL CHLORIDE LEVELS, AND PROPER PROTECTIVE MEASURES ARE OUTLINED ON ATTACHMENT #1.

WHENEVER ANY LEVEL WARNING LIGHT AND ALARM IS ACTIVATED, EMPLOYEES IN THE AFFECTED AREA MUST IMMEDIATELY LEAVE THAT AREA. EMPLOYEES ARE NOT TO RE-ENTER ANY AFFECTED AREA UNLESS THEY ARE WEARING AT A MINIMUM AN AIR LINE RESPIRATOR, OR UNLESS THE ATMOSPHERE HAS CLEARED AND THE WARNING LIGHTS HAVE GONE OFF.

ANY AREA IN WHICH THE CONCENTRATION HAS REACHED 1000 PPM (AMBER LIGHT) CAN ONLY BE ENTERED IF EMPLOYEES ARE WEARING SELF-CONTAINED BREATHING APPARATUS (MSA AIR PACK).

ANY AREA IN WHICH THE CONCENTRATION HAS REACHED 36,000 PPM CAN ONLY BE ENTERED FOR THE PURPOSE OF LIFE RESCUE. EMPLOYEES ENTERING SUCH AN AREA MUST WEAR SELF-CONTAINED BREATHING APPARATUS (MSA AIR PACK).

| <u>LIGHT<br/>COLOR</u> | <u>VINYL CHLORIDE<br/>CONCENTRATION LEVEL</u>                     | <u>REQUIRED<br/>PROTECTIVE MEASURES</u>                                                                                                                                                                                                                      |
|------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WHITE                  | 5 PARTS PER MILLION (PPM) OR<br>GREATER, BUT LESS THAN<br>100 PPM | IMMEDIATELY EVACUATE AFFECTED AREA, RE-ENTER<br>ONLY IF WEARING <u>AIR LINE RESPIRATOR (OR<br/>AIR PACK)</u>                                                                                                                                                 |
| BLUE                   | 100 PPM OR GREATER, BUT<br>LESS THAN 1000 PPM                     | IMMEDIATELY EVACUATE AFFECTED AREA, RE-ENTER<br>ONLY IF WEARING <u>AIR LINE RESPIRATOR (OR AIR<br/>PACK)</u>                                                                                                                                                 |
| AMBER (YELLOW)         | 1000 PPM OR GREATER, BUT<br>LESS THAN 36,000 PPM                  | IMMEDIATELY EVACUATE AFFECTED AREA, RE-ENTER<br>ONLY IF WEARING AN <u>AIR PACK</u> (SELF-CONTAINED<br>BREATHING APPARATUS)<br><br>AIR LINE RESPIRATORS ARE <u>NOT</u> APPROVED AT<br>THIS CONCENTRATION LEVEL.                                               |
| RED                    | 36,000 PPM OR GREATER                                             | IMMEDIATELY EVACUATE AFFECTED AREA. RE-ENTER<br>ONLY FOR PURPOSE OF LIFE RESCUE. RE-ENTER<br>ONLY IF WEARING AN <u>AIR PACK</u> (SELF-CONTAINED<br>BREATHING APPARATUS).<br><br>AIR LINE RESPIRATORS ARE <u>NOT</u> APPROVED AT THIS<br>CONCENTRATION LEVEL. |

ATTACHMENT #1

OCC 10645

sp3-10