



DOW CHEMICAL U.S.A.

October 16, 1989

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1989 GLYCOL I PLANT HEALTH TEAM REVIEW

Attendees: J. Allen, T. Austin, J. Grimmer, B. Heinze, J. Henry
S. Hood, W. King, G. Kusch, B. Ledford, M. Leopold,
J. Paul, J. Rink

Summary:

The Glycol I Plant Health Team Review was held on October 11, 1989. The main topics covered were a general review of the process, 1988 Exposure Monitoring Data, Chemical Exposure Incidents in 1988, 1989 Industrial Hygiene activity Goals and Plans and results of the Medical Surveillance Program. A walk through of the Central Loading Rack followed the review program.

1. John Grimmer reviewed monitoring data for 1988. The analytical results for propylene dichloride, propylene oxide, epichlorohydrin, 1,2,-dichloroethane and 1,2,1-trichloropropene were all quite low. The other materials that were sampled - dichloroisopropyl ether, carbon tetrachloride and perchloroethylene - were all well below their respective threshold limit values.

1988 area noise readings indicate that sound levels changed little from 1987. From a sound level standpoint, the air dryers located in the caustic area created the most noise with a 97dB reading. Approximately one-half of the plant operating area is designated a high noise level work area requiring the wearing of hearing protection. Compliance with this policy appears to be very good.

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2. Jim Rink discussed a 1988 safety incident which resulted in a chemical exposure. A control valve on caustic to the hydrolyzer malfunctioned, and caustic overflowed the fume tower, resulting in an employee being sprayed with the material. The individual involved received minor chemical burns.
3. Monitoring plans for 1989 include a noise survey, and sampling for propylene oxide, propylene dichloride, dichloroisopropyl ether, carbon tetrachloride, epichlorohydrin and perchloroethylene.
4. Dr. Kusch reviewed the medical surveillance program test results for Dow and contractor employees. Twenty four percent of the plant personnel are greater than ten percent overweight. The average hemoglobin reading was 15.1 grams; seven individuals were below 14 grams. Four of these individuals were at 13.9 grams, and the other three were normal on a repeat test. The SGPT liver enzyme level averaged 32 with four individuals exceeding 55. Further evaluation of their medical data did not indicate any cause and effect relationship with the work place. No standard threshold shifts have occurred in the past two years. Eight Dow employees have a greater than 25dB hearing loss. The number of individuals with high cholesterol (>200 mg/dl) dropped from 30 in 1987 to 22 in 1988. Although the decrease in the number of high cholesterol individuals was sizeable, the 22 remaining employees make up more than 50 percent of the work force.
5. Some I. H. related accomplishments for 1988 included approval of a project to eliminate several process vents to the atmosphere. The RTO date for this project is December 1989. Another I. H. related project that was completed during the year involved the installation of sample boxes on lines off pumps in the propylene dichloride previewing system.
6. A walkthrough of the Central Loading Rack, where Glycol I plant personnel load and unload materials for their block and the Solvents/EDC-I facility, was conducted. Carbon Tet, perchloroethylene and the propylene glycols are handled with tank car domes in the open position. Most of the loading rack chemicals are sampled using open system techniques. In 1989, the plant Industrial Hygiene sampling program will focus on monitoring for exposure levels at the loading rack.

Recommendations:

1. Review the plants' written respiratory protection program for compliance to the requirements of S&LP Standard S-206. Forward a copy of the updated program to the Industrial Hygiene Department.
2. Audit portable container labelling using the requirements set forth in that section of the HAZCOM manual.
3. Forward all I. H. related records (sample records, calculations, documentation of training, and meeting rosters, etc.) to the I. H. Department for microfilming and storage on an annual basis. This should be done following completion of the yearly report. As a good quality assurance measure, these records should be signed and dated at the time of creation.
4. Conduct monitoring for levels of the chlorinated organic materials whose permissible exposure levels were recently revised. Also, perform some personnel noise dosimeter monitoring of block contractors.
5. Minimize exposure potential to hazardous compounds at the Central Loading Rack by eliminating open dome loading operations, and the draining and sampling of some materials into open buckets. Industrial Hygiene fully supports all efforts to eliminate these two practices as soon as possible.

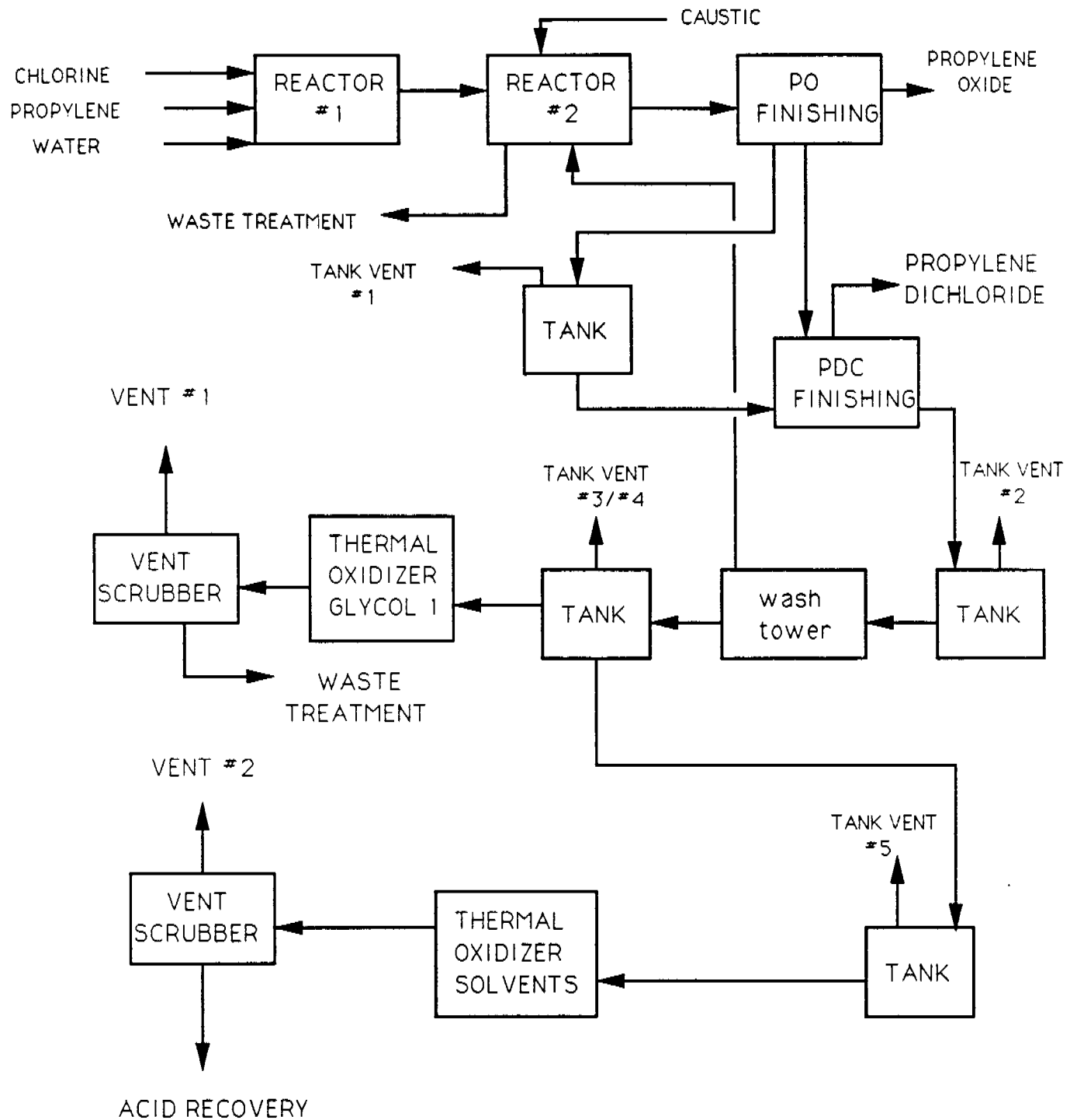
Please respond in writing to Industrial Hygiene within one month as to action taken or planned in regard to these recommendations.

Bruce /cm

Bruce Heinze
Industrial Hygiene

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GLYCOL 1 PROCESS



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