

GLYCOL I PLANT - LOUISIANA DIVISION

INDUSTRIAL HEALTH JOB ANALYSIS

DECEMBER, 1975

- A. A survey of airborne organic contaminants has been completed at Glycol I, Louisiana Division.

Personnel were equipped with battery operated air sampling pumps made by Sipin Co. The suction side of the pump was connected to a charcoal filled tube through which air was drawn. From the time and flow rate information, the total volume of air through the charcoal absorption tube was determined. The pumps were worn for eight hours after which the charcoal was removed and retained for analysis. Each sampler was filled with fresh charcoal, its battery recharged and used again.

The charcoal sample was poured into a bottle of chilled carbon disulfide mixed for 30 minutes. Time was allowed for all the charcoal "fines" to settle out and a sample of clear carbon disulfide was injected into a vapor phase chromatograph. Two chromatographic systems were needed.

- a. 10' x 1/8" s.s. tubing packed with porapak PS, 50/80 mesh
- b. 9' x 1/8" s.s. tubing packed with 20% Ucon 50 HB 2000 on gas chrom Z, 60/80 mesh.

Each chemical normally present was checked, as well as type of work.

There were 17 jobs studied in this survey, two more than in 1974. One of these was the safety and training supervisor and the other was craftsman in our block.

The average and maximum time weighted values for each job surveyed are shown on the following data sheets. The maximum threshold limit value (TLV) are recorded next to the chemical name on each sheet.

Ten chemicals were tested for in our block that are toxic. One of these, (Propionaldehyde) has no Industrial Hygiene Standard Number.

Forty-three 8-hour samples were caught in this survey, which lasted the entire month of December.

Two new chemicals, Vinyl Chloride and Vinylidene Chloride are included in this survey. These are found on the central loading rack.

New areas tested in this survey which previously had not been tested were the Propylene Oxide storage tank (DV-6201) and loading docks while a P.O. barge was being loaded. Some craftsman jobs also were tested for the first time.

B. Conclusions:

Analyzing the Glycol I block for ten chemicals and seventeen jobs:

1. One person checked on survey was over the TLV on one chemical.
2. This is one person checked out of 43 people or 2.3%.
3. In chemicals checked this is one chemical out of 430 or 0.23%.
4. Results on everyone else are no TLV's exceeded.
5. The O.T. who exceeded the TLV was working on the C.L.R. loading vinyl chloride. The chemical was vinyl chloride. The O.T. used all of the protective equipment he was supposed to including fresh air mask and air supply, so the exceeded TLV should not be what he was actually breathing. He was notified of the exposure and a search for leaks was made.

- C. A noise survey was conducted during the month of December. This survey is an area survey and not an individual exposure survey. The results are shown on the plant layout and on the data sheet. We do have some areas where the noise level exceeds the 85 db limit. Warning signs are posted in these areas and personal ear protection is provided for use.

*E. D. Brittingham*

E. D. Brittingham  
Industrial Health Representative  
Glycol I

jp

DO 079199  
CONFIDENTIAL

DOW CHEMICAL U.S.A.  
LOUISIANA DIVISION  
DATA SHEET

SUMMARY BY JOB CLASSIFICATION

DECEMBER 1975

| Date     | JOB CLASS        | VCL  | P.Oxide | PAD  | VLD  | PDC  | EPI  | Chloroethene<br>N <sub>4</sub> | PLH  | TCP  | DLIFE |
|----------|------------------|------|---------|------|------|------|------|--------------------------------|------|------|-------|
| OSHA or  | TLV.             | 1    | 100     | -    | 10   | 75   | 5    | 350                            | 75   | 50   | 1     |
| 12-8-75  | E-DOC            | N.D. | 1.33    | 0.11 | N.D. | 0.32 | 0.25 | N.D.                           | N.D. | N.D. | N.D.  |
| 12-11-75 | WORKERS          | N.D. | 1.84    | 5.96 | N.D. | 2.50 | 0.52 | N.D.                           | N.D. | N.D. | 0.40  |
| 12-13-75 |                  | N.D. | 0.33    | 0.66 | N.D. | 0.24 | 0.07 | N.D.                           | N.D. | N.D. | N.D.  |
| 12-22-75 |                  | N.D. | 0.39    | 0.19 | N.D. | 0.29 | 0.17 | N.D.                           | N.D. | N.D. | 0.17  |
| 12-10-75 | E-DOC. SUPER     | N.D. | 0.93    | 0.52 | N.D. | 0.22 | 0.20 | N.D.                           | N.D. | N.D. | N.D.  |
| 12-8-75  | SHIFT. SUP.      | N.D. | 0.78    | 0.29 | N.D. | 0.49 | 0.22 | N.D.                           | N.D. | N.D. | N.D.  |
| 12-11-75 | SAFETY SUP       | N.D. | 2.02    | 1.05 | N.D. | 0.38 | 0.14 | N.D.                           | N.D. | N.D. | N.D.  |
| 12-9-75  | BLOCK LOADER     | N.D. | 1.05    | N.D. | N.D. | 0.24 | N.D. | N.D.                           | N.D. | N.D. | N.D.  |
| 12-12-75 |                  | N.D. | 1.20    | 1.44 | N.D. | 0.30 | 0.10 | N.D.                           | N.D. | N.D. | 0.15  |
| 12-12-75 | MATL. CONTROLLER | N.D. | 1.63    | 0.78 | N.D. | 0.36 | 0.09 | 7.78                           | N.D. | N.D. | 0.15  |
| 12-10-75 | C.L.R. SOT       | 0.62 | 0.89    | 0.38 | 0.17 | 0.16 | 0.21 | N.D.                           | N.D. | N.D. | N.D.  |
| 12-18-75 |                  | 0.52 | N.D.    | N.D. | N.D. | 0.38 | N.D. | N.D.                           | N.D. | N.D. | N.D.  |
| 12-10-75 | C.L.R. O.T.      | 0.09 | 0.61    | N.D. | N.D. | 0.30 | N.D. | N.D.                           | N.D. | N.D. | N.D.  |
| 12-10-75 |                  | 6.16 | 0.77    | 0.89 | 1.73 | 0.16 | N.D. | N.D.                           | N.D. | N.D. | N.D.  |
| 12-18-75 |                  | 0.08 | 0.21    | N.D. | 0.58 | 0.41 | N.D. | N.D.                           | N.D. | N.D. | N.D.  |
| 12-18-75 |                  | 0.67 | 0.58    | 1.31 | N.D. | 0.30 | N.D. | N.D.                           | N.D. | N.D. | N.D.  |
| 12-15-75 | INST. PERSON     | N.D. | 2.60    | 0.48 | N.D. | 1.25 | 0.09 | N.D.                           | N.D. | N.D. | 0.14  |
| 12-15-75 |                  | N.D. | 0.36    | 0.27 | N.D. | 0.89 | 0.07 | N.D.                           | N.D. | N.D. | 0.12  |
| 12-18-75 | CRAFTSMAN        | N.D. | 1.70    | 1.05 | N.D. | 0.26 | N.D. | N.D.                           | N.D. | N.D. | N.D.  |
| 12-18-75 | P.F. & ELECT     | N.D. | 1.24    | 8.07 | N.D. | 0.32 | N.D. | N.D.                           | N.D. | N.D. | N.D.  |

DOW CHEMICAL U.S.A.  
LOUISIANA DIVISION  
DATA SHEET

Summary By Job CLASSIFICATION -

DECEMBER-1975

| Date     | Job<br>CLASS  |  | VCL  | P.Oxide | P.AID | VLD  | PDC  | EPI  | Chlorothene nu | PLH  | TCP  | DCIPE |
|----------|---------------|--|------|---------|-------|------|------|------|----------------|------|------|-------|
| CSHA or  | T.C.V.        |  | 1    | 100     | -     | 10   | 75   | 5    | 350            | 75   | 50   | 1     |
| 12-9-75  | ASST. Chemist |  | N.D. | 4.96    | 1.80  | 0.73 | 0.23 | N.D. | N.D.           | N.D. | N.D. | N.D.  |
| 12-12-75 |               |  | 0.08 | 5.69    | 2.50  | N.D. | 0.47 | 0.08 | N.D.           | N.D. | N.D. | 0.13  |
| 12-17-75 |               |  | 0.35 | 2.60    | 1.45  | 0.14 | 0.34 | 0.09 | N.D.           | N.D. | N.D. | 0.14  |
| 1-1-76   |               |  |      | 7.75    |       |      |      |      |                |      |      |       |
| 12-9-75  | LAB O.T.      |  | N.D. | 23.03   | 3.66  | N.D. | 0.94 | N.D. | N.D.           | N.D. | N.D. | N.D.  |
| 12-12-75 |               |  | N.D. | 1.11    | 0.41  | N.D. | 0.55 | 0.07 | N.D.           | N.D. | N.D. | 0.12  |
| 12-15-75 |               |  | N.D. | 21.92   | 2.78  | N.D. | 0.96 | 0.09 | N.D.           | N.D. | N.D. | 0.14  |
| 12-8-75  | 70- O.S.      |  | N.D. | 0.94    | 0.20  | N.D. | 0.25 | 0.22 | N.D.           | N.D. | N.D. | N.D.  |
| 12-11-75 |               |  | N.D. | 0.82    | 1.44  | N.D. | 0.34 | 0.11 | N.D.           | N.D. | N.D. | 0.36  |
| 12-22-75 |               |  | N.D. | 0.93    | 1.48  | N.D. | 0.32 | 0.19 | N.D.           | N.D. | N.D. | 0.15  |
| 12-8-75  | 71 O.S        |  | N.D. | 2.01    | 0.97  | N.D. | 0.67 | 0.24 | N.D.           | N.D. | N.D. | N.D.  |
| 12-11-75 |               |  | N.D. | 1.31    | 1.30  | N.D. | 0.77 | 0.12 | N.D.           | N.D. | N.D. | 0.19  |
| 12-17-75 |               |  | N.D. | 1.54    | 0.70  | N.D. | 0.59 | 0.10 | N.D.           | N.D. | N.D. | 0.15  |
| 12-9-75  | 71- S.O.T.    |  | N.D. | 5.65    | 4.22  | N.D. | 1.30 | 0.42 | N.D.           | N.D. | N.D. | N.D.  |
| 12-11-75 |               |  | N.D. | 0.27    | 0.20  | N.D. | 0.43 | 0.11 | N.D.           | N.D. | N.D. | 0.18  |
| 12-15-75 |               |  | N.D. | 4.79    | 0.81  | N.D. | 2.31 | 0.18 | N.D.           | N.D. | N.D. | 0.28  |
| 12-17-75 |               |  | N.D. | 1.37    | 0.68  | N.D. | 0.72 | 0.09 | N.D.           | N.D. | N.D. | 0.15  |
| 12-22-75 |               |  | N.D. | 0.82    | 4.11  | N.D. | 0.68 | 0.23 | N.D.           | N.D. | N.D. | 0.35  |
| 12-9-75  | 70- O.T.      |  | N.D. | 2.68    | 0.73  | N.D. | 0.35 | N.D. | N.D.           | N.D. | N.D. | N.D.  |
| 12-17-75 |               |  | N.D. | 1.46    | 0.36  | N.D. | 0.38 | 0.10 | N.D.           | N.D. | N.D. | 0.16  |
| 12-22-75 |               |  | N.D. | 2.26    | 43.47 | N.D. | 0.74 | 0.40 | N.D.           | N.D. | N.D. | 0.15  |
| 12-12-75 | LAB. etc.     |  | N.D. | 1.51    | 1.30  | N.D. | 0.43 | N.D. | N.D.           | N.D. | N.D. | N.D.  |
| 12-22-75 |               |  | N.D. | 0.47    | 2.28  | N.D. | 0.36 | N.D. | N.D.           | N.D. | N.D. | 0.30  |

## GLYCOL I - E. HEALTH SURVEY

DECEMBER 1975

| Date     | NAME              | JOB CLASSIFICATION | VCL  | P. oxide | P. AID | VLD  | PDC  | EPI  | Chlorothene Ny | PCH  | TCP  | DLIPE |
|----------|-------------------|--------------------|------|----------|--------|------|------|------|----------------|------|------|-------|
| CSHA or  | T.L.V.            |                    | 1    | 100      | -      | 10   | 75   | 5    | 350            | 75   | 50   | 1     |
| 12-8-75  | GENE SIMPSON      | E-DOC              | N.D. | 1.33     | 0.11   | N.D. | 0.32 | 0.25 | N.D.           | N.D. | N.D. | N.D.  |
| 12-8-75  | TIM BURGE         | 70 C.S.            | N.D. | 0.94     | 0.20   | N.D. | 0.25 | 0.22 | N.D.           | N.D. | N.D. | N.D.  |
| 12-8-75  | TIM BURGE         | S.S.               | N.D. | 0.78     | 0.29   | N.D. | 0.49 | 0.22 | N.D.           | N.D. | N.D. | N.D.  |
| 12-8-75  | GUY HANSON        | 71 C.S.            | N.D. | 2.01     | 0.97   | N.D. | 0.67 | 0.24 | N.D.           | N.D. | N.D. | N.D.  |
| 12-9-75  | MIKE SANT         | 71 SOT             | N.D. | 5.65     | 4.22   | N.D. | 1.30 | 0.42 | N.D.           | N.D. | N.D. | N.D.  |
| 12-9-75  | W. F. HANSEN      | LAB. ASST.         | N.D. | 23.03    | 3.66   | N.D. | 0.94 | N.D. | N.D.           | N.D. | N.D. | N.D.  |
| 12-9-75  | PAUL              | A. Chem            | N.D. | 4.96     | 1.80   | 0.73 | 0.23 | N.D. | N.D.           | N.D. | N.D. | N.D.  |
| 12-9-75  | WILLIAM BLANCHARD | BLOCK LOADER       | N.D. | 1.05     | N.D.   | N.D. | 0.24 | N.D. | N.D.           | N.D. | N.D. | N.D.  |
| 12-9-75  | JOE EAST          | C.T.               | N.D. | 2.68     | 0.73   | N.D. | 0.35 | N.D. | N.D.           | N.D. | N.D. | N.D.  |
| 12-10-75 | SARGE             | C.L.R. S.O.T       | 0.62 | 0.89     | 0.38   | 0.17 | 0.16 | 0.21 | N.D.           | N.D. | N.D. | N.D.  |
| 12-10-75 | MICHA LARNEY      | C.T.               | 0.09 | 0.61     | N.D.   | N.D. | 0.30 | N.D. | N.D.           | N.D. | N.D. | N.D.  |
| 12-10-75 | CHARLES HANSEN    | C.T.               | 6.16 | 3.77     | 0.89   | 1.73 | 0.16 | N.D. | N.D.           | N.D. | N.D. | N.D.  |
| 12-10-75 | W. F. HANSEN      | C.T.               | N.D. | 0.93     | 0.52   | N.D. | 0.22 | 0.20 | N.D.           | N.D. | N.D. | N.D.  |
| 12-11-75 | SIDNEY HANSEN     | C.L.R. S.O.T       | N.D. | 2.02     | 1.05   | N.D. | 0.38 | 0.14 | N.D.           | N.D. | N.D. | N.D.  |
| 12-11-75 | TIM BURGE         | 70 C.S.            | N.D. | 0.82     | 1.44   | N.D. | 0.34 | 0.11 | N.D.           | N.D. | N.D. | 0.36  |
| 12-11-75 | GEORGE DIXON      | E-DOC              | N.D. | 1.84     | 5.96   | N.D. | 2.50 | 0.52 | N.D.           | N.D. | N.D. | 0.42  |
| 12-11-75 | TIM BURGE         | 71 SOT             | N.D. | 0.27     | 0.20   | N.D. | 0.43 | 0.11 | N.D.           | N.D. | N.D. | 0.18  |
| 12-11-75 | TIM BURGE         | 71 C.S.            | N.D. | 1.31     | 1.30   | N.D. | 0.77 | 0.12 | N.D.           | N.D. | N.D. | 0.19  |
| 12-12-75 | JOHN EHRMANN      | MAT. CONT.         | N.D. | 1.63     | 0.78   | N.D. | 0.36 | 0.09 | 7.78           | N.D. | N.D. | 0.15  |
| 12-12-75 | WILLIAM BLANCHARD | LABOR              | N.D. | 1.51     | 1.30   | N.D. | 0.43 | N.D. | N.D.           | N.D. | N.D. | N.D.  |
| 12-12-75 | PAUL              | A. Chem            | 0.08 | 5.69     | 2.50   | N.D. | 0.47 | 0.08 | N.D.           | N.D. | N.D. | 0.13  |
| 12-12-75 | WILLIAM BLANCHARD | BLOCK LOADER       | N.D. | 1.20     | 1.44   | N.D. | 0.30 | 0.10 | N.D.           | N.D. | N.D. | 0.15  |
| 12-12-75 | W. F. HANSEN      | LAB. ASST.         | N.D. | 1.11     | 0.41   | N.D. | 0.55 | 0.07 | N.D.           | N.D. | N.D. | 0.12  |

DO 079202  
CONFIDENTIAL



DOW CHEMICAL U.S.A.  
LOUISIANA DIVISION  
**DATA SHEET**

GLYCOL I E. HEALTH SURVEY

DECEMBER 1975

| DATE     | NAME           | JOB CLASSIFICATION | VCL  | P. Oxide | P. AID | VLD   | PDC     | EPI   | Chloroform<br>NH | PCH  | TCP  | DCIPE |
|----------|----------------|--------------------|------|----------|--------|-------|---------|-------|------------------|------|------|-------|
| OSHA OR  | TLV            |                    | 1    | 100      |        | 10    | 75      | 5     |                  | 75   | 50   | 1     |
| 12-15-75 | W.F. Hargood   | LAB ASST           | N.D. | 21.92    | 2.78   | N.D.  | 0.96    | 0.09  | N.D.             | N.D. | N.D. | 0.14  |
| 12-15-75 | W. H. PASSMAN  | INST               | N.D. | 2.60     | 0.48   | N.D.  | 1.25    | 0.09  | N.D.             | N.D. | N.D. | 0.14  |
| 12-15-75 | D. H. CHILDS   | JAN                | N.D. | 0.36     | 0.27   | N.D.  | 0.89    | 0.07  | N.D.             | N.D. | N.D. | 0.12  |
| 12-15-75 | H. J. TCHOUKIS | E-DEC              | N.D. | 0.33     | 0.66   | N.D.  | 0.24    | 0.07  | N.D.             | N.D. | N.D. | N.D.  |
| 12-15-75 | H. H. ARLOTT   | 71 SGT             | N.D. | 4.79     | 0.81   | N.D.  | 2.31    | 0.18  | N.D.             | N.D. | N.D. | 0.20  |
| 12-17-75 | R. T. TAYLOR   | LAB                | 0.35 | 2.60     | 1.45   | 0.14  | 0.34    | 0.09  | N.D.             | N.D. | N.D. | 0.14  |
| 12-17-75 | W. H. TAYLOR   | C.T.               | N.D. | 1.46     | 0.36   | N.D.  | 0.38    | 0.10  | N.D.             | N.D. | N.D. | 0.16  |
| 12-17-75 | T. H. TAYLOR   | 71 SGT             | N.D. | 1.54     | 0.70   | N.D.  | 0.59    | 0.10  | N.D.             | N.D. | N.D. | 0.15  |
| 12-17-75 | J. H. DUNCAN   | 71 SGT             | N.D. | 1.37     | 0.68   | N.D.  | 0.72    | 0.09  | N.D.             | N.D. | N.D. | 0.15  |
| 12-18-75 | D. A. DUNCAN   | C.L.R. C.T.        | 0.08 | 0.21     | N.D.   | 0.58  | 0.41    | N.D.  | N.D.             | N.D. | N.D. | N.D.  |
| 12-18-75 | S. H. HARGOOD  | 71 SGT             | 0.52 | N.D.     | N.D.   | N.D.  | 0.38    | N.D.  | N.D.             | N.D. | N.D. | N.D.  |
| 12-18-75 | C. H. HARGOOD  | C.L.R. C.T.        | 0.87 | 0.58     | 1.31   | N.D.  | 0.30    | N.D.  | N.D.             | N.D. | N.D. | N.D.  |
| 12-18-75 | J. H. HARGOOD  | FLIC               | N.D. | 1.70     | 1.05   | N.D.  | 0.26    | N.D.  | N.D.             | N.D. | N.D. | N.D.  |
| 12-18-75 | B. H. O'NEAL   | P.F.               | N.D. | 1.24     | 8.07   | N.D.  | 0.32    | N.D.  | N.D.             | N.D. | N.D. | N.D.  |
| 12-22-75 | R. H. DUNCAN   | 111 SGT            | N.D. | 0.47     | 2.28   | N.D.  | 0.36    | 0.20  | N.D.             | N.D. | N.D. | 0.30  |
| 12-22-75 | F. H. HARGOOD  | F-DEC              | N.D. | 0.39     | 0.19   | N.D.  | 0.29    | 0.17  | N.D.             | N.D. | N.D. | 0.17  |
| 12-22-75 | G. H. HARGOOD  | 71 SGT             | N.D. | 0.93     | 1.48   | N.D.  | 0.32    | 0.19  | N.D.             | N.D. | N.D. | 0.15  |
| 12-22-75 | P. H. HARGOOD  | C.T.               | N.D. | 2.26     | 43.47  | N.D.  | 0.74    | 0.40  | N.D.             | N.D. | N.D. | 0.15  |
| 12-22-75 | H. H. GREEN    | 71 SGT             | N.D. | 0.82     | 4.11   | N.D.  | 0.68    | 0.23  | N.D.             | N.D. | N.D. | 0.35  |
| 1-1-76   | R. T. TAYLOR   | Archem             | -    | 7.75     |        |       |         |       |                  |      |      |       |
|          | L. A. DUNCAN   | Archem             |      |          |        |       |         |       |                  |      |      |       |
| 12-22-75 | B. T. TAYLOR   | Archem             | 5.66 | 236.3    | 295.7  | 130.4 | 1,619.5 | 106.8 | 201.6            | 13.8 | —    | 154.5 |
| 12-22-75 | W. H. HARGOOD  | Archem             |      |          |        |       |         |       |                  |      |      |       |
| 12-22-75 | W. H. HARGOOD  | Archem             |      |          |        |       |         |       |                  |      |      |       |

DO 079203  
CONFIDENTIAL

GLYCOL I NOISE SURVEY

DATE: DEC. 1975

| LOCATION         | db    | LOCATION         | db     | LOCATION                 | db    |
|------------------|-------|------------------|--------|--------------------------|-------|
| OFFICE           | 60-65 | R-102D           | 95-98  | Caustic Pumps            | 92    |
| Shop             | 65-75 | R/W Sump         | 90-104 | Air Blower               | 88-96 |
| Inst. Shop       | 60-65 | R-2D             | 92-98  | Burner                   | 80-92 |
| Lab              | 60-65 | R-1A             | 95     | DH-1201 Tanks            | 70-81 |
| Grimmer's Office | 60-65 | D-2A             | 95     | D-9                      | 85    |
| 71 Check Tanks   | 68-80 | R-2B             | -      | R-3C                     | 81    |
| T-106 Btms.      | 81    | S-1              | -      | R-3F                     | 85    |
| T-114 Btms       | 82    | S-2              | -      | R-3-J                    | 85    |
| T-115 Btms.      | 83    | 70 Comp.         | 85-88  | 70 Check Tanks           | 73-80 |
| T-113 Btms.      | 81    | T-102C Btms.     | 85     | 70-71 Storage Tanks      | 72-85 |
| T-105 Btms.      | 80    | T-10 Btms.       | 86     | DV-6201                  | 70    |
| T-103 Btms.      | 81    | T-11 Btms.       | 88     | T.F. Air Comp.           | 96    |
| 71 Control Room  | 75    | T-12 Btms.       | 88     | C.L.R. Normal            | 70-75 |
| T-102B Btms.     | 85    | T-2 Btms.        | 88     | C.L.R. Alarm up to 6'    | 106   |
| T-102A Btms.     | 87    | 70 Control Room  | 67-72  | C.L.R. Depress. Car-10'  | >115  |
| T-112 Btms.      | 89    | T-3 Btms.        | 81     | Change Room              | 60-65 |
| T-102A Reflux    | 88    | T-4 Btms.        | 84     | Portable Air Comp.       | -     |
| 71 Comp. Area    | 83-86 | T-5 Btms.        | 89     | Jack Hammer              | -     |
| DH-1252 Tanks    | 78-80 | T-13 Btms.       | 87     | Welding Machine          | -     |
| S-102            | 85    | T-6 Btms.        | 85     | Grinder                  | -     |
| R-102C           | 86    | T-7 Btms.        | 82     | Finish End - Middle Isle | 82    |
| R-102B           | -     | 70 Ejector       | 80     | Front End - Middle Isle  | 84    |
| D-102A           | 94    | Aru-1            | 84     | Slab Condensate          | -     |
| R-101A           | 95    | Air Dryers       | 78     | P.A. SYSTEM - 10'        | 95    |
| ARU-101          | 84    | Water Soft. EAST | 80     |                          |       |
| S-101            | -     | Water Soft. WEST | 92     |                          |       |

DO 079204  
CONFIDENTIAL

65-45

71  
OXIDE  
TANKS

GLYCOL I  
PLANT LAYOUT  
DEC. 1975

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

DEPARTMENT: GLYCOL I JOB CLASSIFICATION: MATERIAL CONTROLLER DATE OF THIS REPORT: DEC. 1975

| CHEMICAL NAME                                                                                                                           | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |     | NUMBER OF<br>SAMPLES TAKEN | SAMPLE PERIOD<br>DATE(S)                 | TWA  |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|-----|----------------------------|------------------------------------------|------|
|                                                                                                                                         |                |         | HIGH            | LOW |                            |                                          |      |
| VINYL CHLORIDE                                                                                                                          | 1              | 5       | N.D.            |     | 1 For 8 Hrs                | DEC. 1975                                | N.D. |
| PROPYLENE OXIDE                                                                                                                         | 100            | 150     | 1.63            |     | " "                        | " "                                      | 1.63 |
| PROPION ALDEHYDE                                                                                                                        | NONE           | —       | 0.78            |     | " "                        | " "                                      | 0.78 |
| VINYLDENE CHLORIDE                                                                                                                      | 10             | 20      | N.D.            |     | " "                        | " "                                      | N.D. |
| PROPYLENE DICHLORIDE                                                                                                                    | 75             | 112.5   | 0.36            |     | " "                        | " "                                      | 0.36 |
| EPICHLOROHYDRIN                                                                                                                         | 5              | 10      | 0.09            |     | " "                        | " "                                      | 0.09 |
| CHLOROTHENE N <sub>4</sub>                                                                                                              | 350            | 437.5   | 7.78            |     | " "                        | " "                                      | 7.78 |
| PROPYLENE CHLOROHYDRIN                                                                                                                  | 75             | 112.5   | N.D.            |     | " "                        | " "                                      | N.D. |
| 2,3, TRICHLORO PROPANE                                                                                                                  | 50             | 75      | N.D.            |     | " "                        | " "                                      | N.D. |
| CHLORISO PROPYL ETHER                                                                                                                   | 1              | 2       | 0.15            |     | " "                        | " "                                      | 0.15 |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} =$ |                |         |                 |     |                            | Em - Equivalent<br>Exposure →<br>Mixture | 0.21 |

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate →

Standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m<sup>3</sup> if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 microns/cc of air sampled.

Original: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

V/ad  
20-73

DO 079206  
CONFIDENTIAL

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

AGENT: GLYCOL I JOB CLASSIFICATION: E-DOC WORKERS DATE OF THIS REPORT: DEC. 1975

DO 079207  
CONFIDENTIAL

| CHEMICAL NAME                                                                                                                           | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF<br>SAMPLES TAKEN | SAMPLE PERIOD<br>DATE(S)              | TWA  |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|----------------------------|---------------------------------------|------|
|                                                                                                                                         |                |         | HIGH            | LOW  |                            |                                       |      |
| VINYL CHLORIDE (VCL)                                                                                                                    | 1              | 5       | N.D.            | N.D. | 4 For 8 hrs                | DEC. 1975                             | N.D. |
| PROPYLENE OXIDE                                                                                                                         | 100            | 150     | 1.84            | 0.33 | " "                        | " "                                   | 0.97 |
| PROPION ALDEHYDE                                                                                                                        | NONE           | —       | 5.96            | 0.11 | " "                        | " "                                   | 1.73 |
| VINYLDENE CHLORIDE                                                                                                                      | 10             | 20      | N.D.            | N.D. | " "                        | " "                                   | N.D. |
| PROPYLENE DICHLORIDE                                                                                                                    | 75             | 112.5   | 2.50            | 0.24 | " "                        | " "                                   | 0.83 |
| EPICHLOROHYDRIN                                                                                                                         | 5              | 10      | 0.52            | 0.07 | " "                        | " "                                   | 0.25 |
| CHLOROTHENE N4                                                                                                                          | 350            | 437.5   | N.D.            | N.D. | " "                        | " "                                   | N.D. |
| PROPYLENE CHLOROHYDRIN                                                                                                                  | 75             | 112.5   | N.D.            | N.D. | " "                        | " "                                   | N.D. |
| 2,3, TRICHLOROPROPANE                                                                                                                   | 50             | 75      | N.D.            | N.D. | " "                        | " "                                   | N.D. |
| (OXIDE)                                                                                                                                 |                |         |                 |      |                            |                                       |      |
| CHLOROISO PROPYL ETHER                                                                                                                  | 1              | 2       | 0.40            | N.D. | " "                        | " "                                   | 0.14 |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} =$ |                |         |                 |      |                            | Em - Equivalent Exposure →<br>Mixture | 0.21 |
| <(1) Acceptable<br>>(1) Unacceptable                                                                                                    |                |         |                 |      |                            |                                       |      |

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate →

standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m3 if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5  $\mu$ m/100cc of air sampled.

original: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

DEPARTMENT: GLYCOL I      JOB CLASSIFICATION: SHIFT SUPERVISOR      DATE OF THIS REPORT: DEC. 1975

| CHEMICAL NAME                                                                                                                           | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF<br>SAMPLES TAKEN | SAMPLE PERIOD<br>DATE(S)             | TWA                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|----------------------------|--------------------------------------|------------------------------------------|
|                                                                                                                                         |                |         | HIGH            | LOW  |                            |                                      |                                          |
| VINYL CHLORIDE                                                                                                                          | 1              | 5       | N.D.            | N.D. | (2) For 8 Hours            | DEC. 1975                            | N.D.                                     |
| PROPYLENE OXIDE                                                                                                                         | 100            | 150     | 2.02            | 0.78 | " "                        | " "                                  | 1.24                                     |
| PROPION ALDEHYDE                                                                                                                        | NONE           | —       | 1.05            | 0.29 | " "                        | " "                                  | 0.62                                     |
| VINYLDENE CHLORIDE                                                                                                                      | 10             | 20      | N.D.            | N.D. | " "                        | " "                                  | N.D.                                     |
| PROPYLENE DICHLORIDE                                                                                                                    | 75             | 112.5   | 0.49            | 0.22 | " "                        | " "                                  | 0.36                                     |
| EPICHLOROHYDRIN                                                                                                                         | 5              | 10      | 0.22            | 0.14 | " "                        | " "                                  | 0.18                                     |
| CHLOROTHENE N <sub>4</sub>                                                                                                              | 350            | 437.5   | N.D.            | N.D. | " "                        | " "                                  | N.D.                                     |
| PROPYLENE CHLOROHYDRIN                                                                                                                  | 75             | 112.5   | N.D.            | N.D. | " "                        | " "                                  | N.D.                                     |
| 1,2,3, TRICHLOROPROPANE                                                                                                                 | 50             | 75      | N.D.            | N.D. | " "                        | " "                                  | N.D.                                     |
| CHLOROISO PROPYL ETHER                                                                                                                  | 1              | 2       | N.D.            | N.D. | " "                        | " "                                  | N.D.                                     |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} =$ |                |         |                 |      |                            | <(1) Acceptable<br>>(1) Unacceptable | Em - Equivalent<br>Exposure →<br>Mixture |
|                                                                                                                                         |                |         |                 |      |                            |                                      | 0.05                                     |

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate →

Standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m<sup>3</sup> if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

STATEMENT: GLYCOL I JOB CLASSIFICATION: Block Loader DATE OF THIS REPORT: DEC. 1975

DO 079209  
CONFIDENTIAL

| CHEMICAL NAME                                                                                                                           | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF<br>SAMPLES TAKEN | SAMPLE PERIOD<br>DATE(S)                 | TWA  |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|----------------------------|------------------------------------------|------|
|                                                                                                                                         |                |         | HIGH            | LOW  |                            |                                          |      |
| VINYL CHLORIDE                                                                                                                          | 1              | 5       | N.D.            | N.D. | 2 For 2 Hrs                | DEC. 1975                                | N.D. |
| PROPYLENE OXIDE                                                                                                                         | 100            | 150     | 1.20            | 1.05 | " "                        | " "                                      | 1.12 |
| ACETALDEHYDE                                                                                                                            | NONE           | —       | 1.44            | N.D. | " "                        | " "                                      | 0.72 |
| VINYLDENE CHLORIDE                                                                                                                      | 10             | 20      | N.D.            | N.D. | " "                        | " "                                      | N.D. |
| PROPYLENE DICHLORIDE                                                                                                                    | 75             | 112.5   | 0.30            | 0.24 | " "                        | " "                                      | 0.27 |
| EPICHLOROHYDRIN                                                                                                                         | 5              | 10      | 0.10            | N.D. | " "                        | " "                                      | 0.05 |
| CHLOROTHCNE N <sub>2</sub>                                                                                                              | 350            | 437.5   | N.D.            | N.D. | " "                        | " "                                      | N.D. |
| PROPYLENE CHLOROHYDRIN                                                                                                                  | 75             | 112.5   | N.D.            | N.D. | " "                        | " "                                      | N.D. |
| 2,3, TRICHLOROPROPANE                                                                                                                   | 50             | 75      | N.D.            | N.D. | " "                        | " "                                      | N.D. |
| CHLOROISO PROPYL ETHER                                                                                                                  | 1              | 2       | 0.15            | N.D. | " "                        | " "                                      | 0.07 |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} =$ |                |         |                 |      |                            | Em - Equivalent<br>Exposure →<br>Mixture | 0.09 |

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate →

Standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m<sup>3</sup> if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

AGENT: GLYCOL I      JOB CLASSIFICATION: S.O.T. on C.L.R.      DATE OF THIS REPORT: DEC. 1975

| CHEMICAL NAME                                                                                                                           | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF<br>SAMPLES TAKEN | SAMPLE PERIOD<br>DATE(S)              | TWA  |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|----------------------------|---------------------------------------|------|
|                                                                                                                                         |                |         | HIGH            | LOW  |                            |                                       |      |
| VINYL CHLORIDE                                                                                                                          | 1              | 5       | 0.62            | 0.52 | 2 For 8 Hrs                | DEC. 1975                             | 0.57 |
| PROPYLENE OXIDE                                                                                                                         | 100            | 150     | 0.89            | N.D. | " "                        | " "                                   | 0.44 |
| PROPION ALDEHYDE                                                                                                                        | NONE           | --      | 0.38            | N.D. | " "                        | " "                                   | 0.19 |
| VINYLDENE CHLORIDE                                                                                                                      | 10             | 20      | 0.17            | N.D. | " "                        | " "                                   | 0.09 |
| PROPYLENE DICHLORIDE                                                                                                                    | 75             | 112.5   | 0.38            | 0.16 | " "                        | " "                                   | 0.27 |
| EPICHLOROHYDRIN                                                                                                                         | 5              | 10      | 0.21            | N.D. | " "                        | " "                                   | 0.10 |
| CHLOROTHENE N <sub>4</sub>                                                                                                              | 350            | 437.5   | N.D.            | N.D. | " "                        | " "                                   | N.D. |
| PROPYLENE CHLOROHYDRIN                                                                                                                  | 75             | 112.5   | N.D.            | N.D. | " "                        | " "                                   | N.D. |
| 1,2,3, TRICHLOROPROPANE                                                                                                                 | 50             | 75      | N.D.            | N.D. | " "                        | " "                                   | N.D. |
| CHLOROISO PROPYL ETHER                                                                                                                  | 1              | 2       | N.D.            | N.D. | " "                        | " "                                   | N.D. |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} =$ |                |         |                 |      |                            | Em - Equivalent Exposure →<br>Mixture | 0.60 |

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate →

standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m<sup>3</sup> if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Signal: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

DEPARTMENT: G-LYCOL I JOB CLASSIFICATION: O.T. on C.L.R. DATE OF THIS REPORT: DEC. 1975

DO 079211  
CONFIDENTIAL

| CHEMICAL NAME                                                                                                                           | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF SAMPLES TAKEN | SAMPLE PERIOD DATE(S)                | TWA                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|-------------------------|--------------------------------------|------------------------------------------|
|                                                                                                                                         |                |         | HIGH            | LOW  |                         |                                      |                                          |
| VINYL CHLORIDE                                                                                                                          | 1              | 5       | 6.16            | 0.08 | 4 For 3 Hrs             | DEC. 1975                            | 1.75                                     |
| PROPYLENE OXIDE                                                                                                                         | 100            | 150     | 0.77            | 0.21 | " "                     | " "                                  | 0.54                                     |
| PROPION ALDEHYDE                                                                                                                        | NONE           | ---     | 1.31            | N.D. | " "                     | " "                                  | 0.55                                     |
| VINYLDENE CHLORIDE                                                                                                                      | 10             | 20      | 1.73            | N.D. | " "                     | " "                                  | 0.57                                     |
| PROPYLENE DICHLORIDE                                                                                                                    | 75             | 112.5   | 0.41            | 0.16 | " "                     | " "                                  | 0.29                                     |
| EPICHLOROHYDRIN                                                                                                                         | 5              | 10      | N.D.            | N.D. | " "                     | " "                                  | N.D.                                     |
| CHLOROTHENE N <sub>2</sub>                                                                                                              | 350            | 437.5   | N.D.            | N.D. | " "                     | " "                                  | N.D.                                     |
| PROPYLENE CHLOROHYDRIN                                                                                                                  | 75             | 112.5   | N.D.            | N.D. | " "                     | " "                                  | N.D.                                     |
| 1,2,3, TRICHLORO PROPANE                                                                                                                | 50             | 75      | N.D.            | N.D. | " "                     | " "                                  | N.D.                                     |
| CHLOROISO PROPYL ETHER                                                                                                                  | 1              | 2       | N.D.            | N.D. | " "                     | " "                                  | N.D.                                     |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} =$ |                |         |                 |      |                         | <(1) Acceptable<br>>(1) Unacceptable | Em - Equivalent Exposure Mixture<br>1.81 |

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate →

Standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m<sup>3</sup> if a dust or mist. The exception asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

V/ad  
20-73

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

AGENT: GLYCOL I JOB CLASSIFICATION: INST. PERSON DATE OF THIS REPORT: DEC. 1975

DO 079212  
CONFIDENTIAL

| CHEMICAL NAME                                                                                                                                                                                                            | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF<br>SAMPLES TAKEN | SAMPLE PERIOD<br>DATE(S) |  | TWA                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|----------------------------|--------------------------|--|------------------------------------------|
|                                                                                                                                                                                                                          |                |         | HIGH            | LOW  |                            |                          |  |                                          |
| VINYL CHLORIDE                                                                                                                                                                                                           | 1              | 5       | N.D.            | N.D. | 2 FOR 8 Hrs                | DEC. 1975                |  | N.D.                                     |
| PROPYLENE OXIDE                                                                                                                                                                                                          | 100            | 150     | 2.60            | 0.36 | " "                        | " "                      |  | 1.48                                     |
| ACETALDEHYDE                                                                                                                                                                                                             | NONE           | —       | 0.48            | 0.27 | " "                        | " "                      |  | 0.38                                     |
| VINYLDENE CHLORIDE                                                                                                                                                                                                       | 10             | 20      | N.D.            | N.D. | " "                        | " "                      |  | N.D.                                     |
| PROPYLENE DICHLORIDE                                                                                                                                                                                                     | 75             | 112.5   | 1.25            | 0.89 | " "                        | " "                      |  | 1.07                                     |
| EPICHLOROHYDRIN                                                                                                                                                                                                          | 5              | 10      | 0.09            | 0.07 | " "                        | " "                      |  | 0.08                                     |
| CHLOROTHCNE N <sub>2</sub>                                                                                                                                                                                               | 350            | 437.5   | N.D.            | N.D. | " "                        | " "                      |  | N.D.                                     |
| PROPYLENE CHLOROHYDRIN                                                                                                                                                                                                   | 75             | 112.5   | N.D.            | N.D. | " "                        | " "                      |  | N.D.                                     |
| 2,3, TRICHLOROPROPANE                                                                                                                                                                                                    | 50             | 75      | N.D.            | N.D. | " "                        | " "                      |  | N.D.                                     |
| CHLOROISO PROPYL ETHER                                                                                                                                                                                                   | 1              | 2       | 0.14            | 0.12 | " "                        | " "                      |  | 0.13                                     |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} = \begin{matrix} <(1) \text{ Acceptable} \\ >(1) \text{ Unacceptable} \end{matrix}$ |                |         |                 |      |                            |                          |  | Em - Equivalent Exposure Mixture → 0.175 |
| Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate →                                                                                                                                     |                |         |                 |      |                            |                          |  |                                          |

Standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m<sup>3</sup> if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Signal: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

DEPARTMENT: GLYCOL I

JOB CLASSIFICATION: CRAFTSMAN -  
1- Electrician  
1- P.F.

DATE OF THIS REPORT: DEC. 1975

DO 079213  
CONFIDENTIAL

| CHEMICAL NAME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF SAMPLES TAKEN | SAMPLE PERIOD DATE(S) | TWA  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|-------------------------|-----------------------|------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |         | HIGH            | LOW  |                         |                       |      |
| VINYL CHLORIDE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1              | 5       | N.D.            | N.D. | 2 For 8 Hrs             | DEC. 1975             | N.D. |
| PROPYLENE OXIDE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 100            | 150     | 1.70            | 1.24 | " "                     | " "                   | 1.47 |
| FORMALDEHYDE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | NONE           | —       | 8.07            | 1.05 | " "                     | " "                   | 4.56 |
| ETHYLENE CHLORIDE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 10             | 20      | N.D.            | N.D. | " "                     | " "                   | N.D. |
| PROPYLENE DICHLORIDE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 75             | 112.5   | 0.32            | 0.26 | " "                     | " "                   | 0.29 |
| EPICHLOROHYDRIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5              | 10      | N.D.            | N.D. | " "                     | " "                   | N.D. |
| CHLOROTHENE N <sub>2</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 350            | 437.5   | N.D.            | N.D. | " "                     | " "                   | N.D. |
| PROPYLENE CHLOROHYDRIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 75             | 112.5   | N.D.            | N.D. | " "                     | " "                   | N.D. |
| 2,3, TRICHLOROPROPANE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 50             | 75      | N.D.            | N.D. | " "                     | " "                   | N.D. |
| 1,1,1,3,3,3,6,6,8,8,8,11,11,11,13,13,13,15,15,15,18,18,18,21,21,21,24,24,24,27,27,27,30,30,30,33,33,33,36,36,36,39,39,39,42,42,42,45,45,45,48,48,48,51,51,51,54,54,54,57,57,57,60,60,60,63,63,63,66,66,66,69,69,69,72,72,72,75,75,75,78,78,78,81,81,81,84,84,84,87,87,87,90,90,90,93,93,93,96,96,96,99,99,99,102,102,102,105,105,105,108,108,108,111,111,111,114,114,114,117,117,117,120,120,120,123,123,123,126,126,126,129,129,129,132,132,132,135,135,135,138,138,138,141,141,141,144,144,144,147,147,147,150,150,150,153,153,153,156,156,156,159,159,159,162,162,162,165,165,165,168,168,168,171,171,171,174,174,174,177,177,177,180,180,180,183,183,183,186,186,186,189,189,189,192,192,192,195,195,195,198,198,198,201,201,201,204,204,204,207,207,207,210,210,210,213,213,213,216,216,216,219,219,219,222,222,222,225,225,225,228,228,228,231,231,231,234,234,234,237,237,237,240,240,240,243,243,243,246,246,246,249,249,249,252,252,252,255,255,255,258,258,258,261,261,261,264,264,264,267,267,267,270,270,270,273,273,273,276,276,276,279,279,279,282,282,282,285,285,285,288,288,288,291,291,291,294,294,294,297,297,297,300,300,300,303,303,303,306,306,306,309,309,309,312,312,312,315,315,315,318,318,318,321,321,321,324,324,324,327,327,327,330,330,330,333,333,333,336,336,336,339,339,339,342,342,342,345,345,345,348,348,348,351,351,351,354,354,354,357,357,357,360,360,360,363,363,363,366,366,366,369,369,369,372,372,372,375,375,375,378,378,378,381,381,381,384,384,384,387,387,387,390,390,390,393,393,393,396,396,396,399,399,399,402,402,402,405,405,405,408,408,408,411,411,411,414,414,414,417,417,417,420,420,420,423,423,423,426,426,426,429,429,429,432,432,432,435,435,435,438,438,438,441,441,441,444,444,444,447,447,447,450,450,450,453,453,453,456,456,456,459,459,459,462,462,462,465,465,465,468,468,468,471,471,471,474,474,474,477,477,477,480,480,480,483,483,483,486,486,486,489,489,489,492,492,492,495,495,495,498,498,498,501,501,501,504,504,504,507,507,507,510,510,510,513,513,513,516,516,516,519,519,519,522,522,522,525,525,525,528,528,528,531,531,531,534,534,534,537,537,537,540,540,540,543,543,543,546,546,546,549,549,549,552,552,552,555,555,555,558,558,558,561,561,561,564,564,564,567,567,567,570,570,570,573,573,573,576,576,576,579,579,579,582,582,582,585,585,585,588,588,588,591,591,591,594,594,594,597,597,597,600,600,600,603,603,603,606,606,606,609,609,609,612,612,612,615,615,615,618,618,618,621,621,621,624,624,624,627,627,627,630,630,630,633,633,633,636,636,636,639,639,639,642,642,642,645,645,645,648,648,648,651,651,651,654,654,654,657,657,657,660,660,660,663,663,663,666,666,666,669,669,669,672,672,672,675,675,675,678,678,678,681,681,681,684,684,684,687,687,687,690,690,690,693,693,693,696,696,696,699,699,699,702,702,702,705,705,705,708,708,708,711,711,711,714,714,714,717,717,717,720,720,720,723,723,723,726,726,726,729,729,729,732,732,732,735,735,735,738,738,738,741,741,741,744,744,744,747,747,747,750,750,750,753,753,753,756,756,756,759,759,759,762,762,762,765,765,765,768,768,768,771,771,771,774,774,774,777,777,777,780,780,780,783,783,783,786,786,786,789,789,789,792,792,792,795,795,795,798,798,798,801,801,801,804,804,804,807,807,807,810,810,810,813,813,813,816,816,816,819,819,819,822,822,822,825,825,825,828,828,828,831,831,831,834,834,834,837,837,837,840,840,840,843,843,843,846,846,846,849,849,849,852,852,852,855,855,855,858,858,858,861,861,861,864,864,864,867,867,867,870,870,870,873,873,873,876,876,876,879,879,879,882,882,882,885,885,885,888,888,888,891,891,891,894,894,894,897,897,897,900,900,900,903,903,903,906,906,906,909,909,909,912,912,912,915,915,915,918,918,918,921,921,921,924,924,924,927,927,927,930,930,930,933,933,933,936,936,936,939,939,939,942,942,942,945,945,945,948,948,948,951,951,951,954,954,954,957,957,957,960,960,960,963,963,963,966,966,966,969,969,969,972,972,972,975,975,975,978,978,978,981,981,981,984,984,984,987,987,987,990,990,990,993,993,993,996,996,996,999,999,999,1002,1002,1002,1005,1005,1005,1008,1008,1008,1011,1011,1011,1014,1014,1014,1017,1017,1017,1020,1020,1020,1023,1023,1023,1026,1026,1026,1029,1029,1029,1032,1032,1032,1035,1035,1035,1038,1038,1038,1041,1041,1041,1044,1044,1044,1047,1047,1047,1050,1050,1050,1053,1053,1053,1056,1056,1056,1059,1059,1059,1062,1062,1062,1065,1065,1065,1068,1068,1068,1071,1071,1071,1074,1074,1074,1077,1077,1077,1080,1080,1080,1083,1083,1083,1086,1086,1086,1089,1089,1089,1092,1092,1092,1095,1095,1095,1098,1098,1098,1101,1101,1101,1104,1104,1104,1107,1107,1107,1110,1110,1110,1113,1113,1113,1116,1116,1116,1119,1119,1119,1122,1122,1122,1125,1125,1125,1128,1128,1128,1131,1131,1131,1134,1134,1134,1137,1137,1137,1140,1140,1140,1143,1143,1143,1146,1146,1146,1149,1149,1149,1152,1152,1152,1155,1155,1155,1158,1158,1158,1161,1161,1161,1164,1164,1164,1167,1167,1167,1170,1170,1170,1173,1173,1173,1176,1176,1176,1179,1179,1179,1182,1182,1182,1185,1185,1185,1188,1188,1188,1191,1191,1191,1194,1194,1194,1197,1197,1197,1200,1200,1200,1203,1203,1203,1206,1206,1206,1209,1209,1209,1212,1212,1212,1215,1215,1215,1218,1218,1218,1221,1221,1221,1224,1224,1224,1227,1227,1227,1230,1230,1230,1233,1233,1233,1236,1236,1236,1239,1239,1239,1242,1242,1242,1245,1245,1245,1248,1248,1248,1251,1251,1251,1254,1254,1254,1257,1257,1257,1260,1260,1260,1263,1263,1263,1266,1266,1266,1269,1269,1269,1272,1272,1272,1275,1275,1275,1278,1278,1278,1281,1281,1281,1284,1284,1284,1287,1287,1287,1290,1290,1290,1293,1293,1293,1296,1296,1296,1299,1299,1299,1302,1302,1302,1305,1305,1305,1308,1308,1308,1311,1311,1311,1314,1314,1314,1317,1317,1317,1320,1320,1320,1323,1323,1323,1326,1326,1326,1329,1329,1329,1332,1332,1332,1335,1335,1335,1338,1338,1338,1341,1341,1341,1344,1344,1344,1347,1347,1347,1350,1350,1350,1353,1353,1353,1356,1356,1356,1359,1359,1359,1362,1362,1362,1365,1365,1365,1368,1368,1368,1371,1371,1371,1374,1374,1374,1377,1377,1377,1380,1380,1380,1383,1383,1383,1386,1386,1386,1389,1389,1389,1392,1392,1392,1395,1395,1395,1398,1398,1398,1401,1401,1401,1404,1404,1404,1407,1407,1407,1410,1410,1410,1413,1413,1413,1416,1416,1416,1419,1419,1419,1422,1422,1422,1425,1425,1425,1428,1428,1428,1431,1431,1431,1434,1434,1434,1437,1437,1437,1440,1440,1440,1443,1443,1443,1446,1446,1446,1449,1449,1449,1452,1452,1452,1455,1455,1455,1458,1458,1458,1461,1461,1461,1464,1464,1464,1467,1467,1467,1470,1470,1470,1473,1473,1473,1476,1476,1476,1479,1479,1479,1482,1482,1482,1485,1485,1485,1488,1488,1488,1491,1491,1491,1494,1494,1494,1497,1497,1497,1500,1500,1500,1503,1503,1503,1506,1506,1506,1509,1509,1509,1512,1512,1512,1515,1515,1515,1518,1518,1518,1521,1521,1521,1524,1524,1524,1527,1527,1527,1530,1530,1530,1533,1533,1533,1536,1536,1536,1539,1539,1539,1542,1542,1542,1545,1545,1545,1548,1548,1548,1551,1551,1551,1554,1554,1554,1557,1557,1557,1560,1560,1560,1563,1563,1563,1566,1566,1566,1569,1569,1569,1572,1572,1572,1575,1575,1575,1578,1578,1578,1581,1581,1581,1584,1584,1584,1587,1587,1587,1590,1590,1590,1593,1593,1593,1596,1596,1596,1599,1599,1599,1602,1602,1602,1605,1605,1605,1608,1608,1608,1611,1611,1611,1614,1614,1614,1617,1617,1617,1620,1620,1620,1623,1623,1623,1626,1626,1626,1629,1629,1629,1632,1632,1632,1635,1635,1635,1638,1638,1638,1641,1641,1641,1644,1644,1644,1647,1647,1647,1650,1650,1650,1653,1653,1653,1656,1656,1656,1659,1659,1659,1662,1662,1662,1665,1665,1665,1668,1668,1668,1671,1671,1671,1674,1674,1674,1677,1677,1677,1680,1680,1680,1683,1683,1683,1686,1686,1686,1689,1689,1689,1692,1692,1692,1695,1695,1695,1698,1698,1698,1701,1701,1701,1704,1704,1704,1707,1707,1707,1710,1710,1710,1713,1713,1713,1716,1716,1716,1719,1719,1719,1722,1722,1722,1725,1725,1725,1728,1728,1728,1731,1731,1731,1734,1734,1734,1737,1737,1737,1740,1740,1740,1743,1743,1743,1746,1746,1746,1749,1749,1749,1752,1752,1752,1755,1755,1755,1758,1758,1758,1761,1761,1761,1764,1764,1764,1767,1767,1767,1770,1770,1770,1773,1773,1773,1776,1776,1776,1779,1779,1779,1782,1782,1782,1785,1785,1785,1788,1788,1788,1791,1791,1791,1794,1794,1794,1797,1797,1797,1800,1800,1800,1803,1803,1803,1806,1806,1806,1809,1809,1809,1812,1812,1812,1815,1815,1815,1818,1818,1818,1821,1821,1821,1824,1824,1824,1827,1827,1827,1830,1830,1830,1833,1833,1833,1836,1836,1836,1839,1839,1839,1842,1842,1842,1845,1845,1845,1848,1848,1848,1851,1851,1851,1854,1854,1854,1857,1857,1857,1860,1860,1860,1863,1863,1863,1866,1866,1866,1869,1869,1869,1872,1872,1872,1875,1875,1875,1878,1878,1878,1881,1881,1881,1884,1884,1884,1887,1887,1887,1890,1890,1890,1893,1893,1893,1896,1896,1896,1899,1899,1899,1902,1902,1902,1905,1905,1905,1908,1908,1908,1911,1911,1911,1914,1914,1914,1917,1917,1917,1920,1920,1920,1923,1923,1923,1926,1926,1926,1929,1929,1929,1932,1932,1932,1935,1935,1935,1938,1938,1938,1941,1941,1941,1944,1944,1944,1947,1947,1947,1950,1950,1950,1953,1953,1953,1956,1956,1956,1959,1959,1959,1962,1962,1962,1965,1965,1965,1968,1968,1968,1971,1971,1971,1974,1974,1974,1977,1977,1977,1980,1980,1980,1983,1983,1983,1986,1986,1986,1989,1989,1989,1992,1992,1992,1995,1995,1995,1998,1998,1998,2001,2001,2001,2004,2004,2004,2007,2007,2007,2010,2010,2010,2013,2013,2013,2016,2016,2016,2019,2019,2019,2022,2022,2022,2025,2025,2025,2028,2028,2028,2031,2031,2031,2034,2034,2034,2037,2037,2037,2040,2040,2040,2043,2043,2043,2046,2046,2046,2049,2049,2049,2052,2052,2052,2055,2055,2055,2058,2058,2058,2061,2061,2061,2064,2064,2064,2067,2067,2067,2070,2070,2070,2073,2073,2073,2076,2076,2076,2079,2079,2079,2082,2082,2082,2085,2085,2085,2088,2088,2088,2091,2091,2091,2094,2094,2094,2097,2097,2097,2100,2100,2100,2103,2103,2103,2106,2106,2106,2109,2109,2109,2112,2112,2112,2115,2115,2115,2118,2118,2118,2121,2121,2121,2124,2124,2124,2127,2127,2127,2130,2130,2130,2133,2133,2133,2136,2136,2136,2139,2139,2139,2142,2142,2142,2145,2145,2145,2148,2148,2148,2151,2151,2151,2154,2154,2154,2157,2157,2157,2160,2160,2160,2163,2163,2163,2166,2166,2166,2169,2169,2169,2172,2172,2172,2175,2175,2175,2178,2178,2178,2181,2181,2181,2184,2184,2184,2187,2187,2187,2190,2190,2190,2193,2193,2193,2196,2196,2196,2199,2199,2199,2202,2202,2202,2205,2205,2205,2208,2208,2208,2211,2211,2211,2214,2214,2214,2217,2217,2217,2220,2220,2220,2223,2223,2223,2226,2226,2226,2229,2229,2229,2232,2232,2232,2235,2235,2235,2238,2238,2238,2241,2241,2241,2244,2244,2244,2247,2247,2247,2250,2250,2250,2253,2253,2253,2256,2256,2256,2259,2259,2259,2262,2262,2262,2265,2265,2265,2268,2268,2268,2271,2271,2271,2274,2274,2274,2277,2277,2277,2280,2280,2280,2283,2283,2283,2286,2286,2286,2289,2289,2289,2292,2292,2292,2295,2295,2295,2298,2298,2298,2301,2301,2301,2304,2304,2304,2307,2307,2307,2310,2313 |                |         |                 |      |                         |                       |      |

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

DEPARTMENT: GLYCOL I JOB CLASSIFICATION: SR. ASST. CHEMIST DATE OF THIS REPORT: DEC. 1975

| CHEMICAL NAME                                                                                                                           | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF<br>SAMPLES TAKEN | SAMPLE PERIOD<br>DATE(S) | TWA                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|----------------------------|--------------------------|------------------------------------------|
|                                                                                                                                         |                |         | HIGH            | LOW  |                            |                          |                                          |
| VINYL Chloride                                                                                                                          | 1              | 5       | 0.35            | N.D. | 4 FOR 8 HOURS              | DEC. 1975                | 0.14                                     |
| PROPYLENE OXIDE                                                                                                                         | 100            | 150     | 7.75            | 2.60 | " "                        | " "                      | 5.25                                     |
| PROPIONALDEHYDE                                                                                                                         | NONE           | —       | 2.50            | 1.45 | " "                        | " "                      | 1.91                                     |
| VINYLCYCLOHEXANE CHLORIDE                                                                                                               | 10             |         | 0.73            | N.D. | " "                        | " "                      | 0.29                                     |
| PROPYLENE DICHLORIDE                                                                                                                    | 75             | 112.5   | 0.47            | 0.23 | " "                        | " "                      | 0.34                                     |
| EPICHLOROHYDRIN                                                                                                                         | 5              | 10      | 0.09            | N.D. | " "                        | " "                      | 0.05                                     |
| CHLOROTHENE NU                                                                                                                          | 350            | 437.5   | N.D.            | N.D. | " "                        | " "                      | N.D.                                     |
| PROPYLENE CHLOROHYDRIN                                                                                                                  | 75             | 112.5   | N.D.            | N.D. | " "                        | " "                      | N.D.                                     |
| 1,2,3 TRICHLORO PROPANE                                                                                                                 | 50             | 75      | N.D.            | N.D. | " "                        | " "                      | N.D.                                     |
| DICHLOROISO PROPYL Ether                                                                                                                | 1              | 2       | 0.14            | N.D. | " "                        | " "                      | 0.09                                     |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} =$ |                |         |                 |      |                            |                          | (1) Acceptable<br>(1) Unacceptable       |
|                                                                                                                                         |                |         |                 |      |                            |                          | Em - Equivalent<br>Exposure →<br>Mixture |

0.326

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate →

Standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m<sup>3</sup> if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

KGV/ad  
6-20-73

DO 079214  
CONFIDENTIAL

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

DEPARTMENT: GLYCOL I      JOB CLASSIFICATION: LAB O.T.      DATE OF THIS REPORT: DEC. 1975

DO 079215  
CONFIDENTIAL

| CHEMICAL NAME                                                                                                                           | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF<br>SAMPLES TAKEN           | SAMPLE PERIOD<br>DATE(S) | TWA                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|--------------------------------------|--------------------------|-----------------------------------------|
|                                                                                                                                         |                |         | HIGH            | LOW  |                                      |                          |                                         |
| VINYL CHLORIDE                                                                                                                          | 1              | 5       | N.D.            | N.D. | 3 For 8 Hours                        | DEC. 1975                | N.D.                                    |
| PROPYLENE OXIDE                                                                                                                         | 100            | 150     | 23.03           | 1.11 | " "                                  | " "                      | 15.35                                   |
| PROPION ALDEHYDE                                                                                                                        | NONE           | —       | 3.66            | 0.41 | " "                                  | " "                      | 2.28                                    |
| VINYLDENE CHLORIDE                                                                                                                      | 10             | 20      | N.D.            | N.D. | " "                                  | " "                      | N.D.                                    |
| PROPYLENE DICHLORIDE                                                                                                                    | 75             | 112.5   | 0.96            | 0.55 | " "                                  | " "                      | 0.81                                    |
| EPICHLOROHYDRIN                                                                                                                         | 5              | 10      | 0.09            | N.D. | " "                                  | " "                      | 0.05                                    |
| CHLOROTHENE N4                                                                                                                          | 350            | 437.5   | N.D.            | N.D. | " "                                  | " "                      | N.D.                                    |
| PROPYLENE CHLOROHYDRIN                                                                                                                  | 75             | 112.5   | N.D.            | N.D. | " "                                  | " "                      | N.D.                                    |
| 1,2,3, TRICHLOROPROPANE                                                                                                                 | 50             | 75      | N.D.            | N.D. | " "                                  | " "                      | N.D.                                    |
| DICHLOROISOPROPYL ETHER                                                                                                                 | 1              | 2       | 0.14            | N.D. | " "                                  | " "                      | 0.08                                    |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} =$ |                |         |                 |      | <(1) Acceptable<br>>(1) Unacceptable |                          |                                         |
|                                                                                                                                         |                |         |                 |      |                                      |                          | Em - Equivalent Exposure Mixture → 0.25 |

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate →

Standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m3 if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

RGV/ad  
6-20-73

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

DEPARTMENT: GLYCOL I      JOB CLASSIFICATION: TO O.S.      DATE OF THIS REPORT: DEC. 1975

| CHEMICAL NAME                                                                                                                           | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF SAMPLES TAKEN | SAMPLE PERIOD DATE(S)                                                    | TWA   |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|-------------------------|--------------------------------------------------------------------------|-------|
|                                                                                                                                         |                |         | HIGH            | LOW  |                         |                                                                          |       |
| VINYL CHLORIDE                                                                                                                          | 1              | 5       | N.D.            | N.D. | 3 For 8 Hrs             | DEC. 1975                                                                | N.D.  |
| PROPYLENE OXIDE                                                                                                                         | 100            | 150     | 0.94            | 0.82 | " "                     | " "                                                                      | 0.89  |
| PROPION ALDEHYDE                                                                                                                        | NONE           | --      | 1.48            | 0.20 | " "                     | " "                                                                      | 1.04  |
| VINYLDENE CHLORIDE                                                                                                                      | 10             | 20      | N.D.            | N.D. | " "                     | " "                                                                      | N.D.  |
| PROPYLENE DICHLORIDE                                                                                                                    | 75             | 112.5   | 0.34            | 0.25 | " "                     | " "                                                                      | 0.30  |
| EPICHLOROHYDRIN                                                                                                                         | 5              | 10      | 0.22            | 0.11 | " "                     | " "                                                                      | 0.17  |
| CHLOROETHYLENE N                                                                                                                        | 350            | 437.5   | N.D.            | N.D. | " "                     | " "                                                                      | N.D.  |
| PROPYLENE CHLORIDE                                                                                                                      | 75             | 112.5   | N.D.            | N.D. | " "                     | " "                                                                      | N.D.  |
| 1,2,3, TRICHLOROPROPYLENE                                                                                                               | 50             | 75      | N.D.            | N.D. | " "                     | " "                                                                      | N.D.  |
| DICHLOROISOPROPYLENE                                                                                                                    | 1              | 2       | 0.36            | N.D. | " "                     | " "                                                                      | 0.17  |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} =$ |                |         |                 |      |                         | Em - Equivalent Exposure Mixture<br><(1) Acceptable<br>>(1) Unacceptable | 0.216 |

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate \_\_\_\_\_

Standard(s) TWA, Ranges & Ceilings to be reported in PPH Vol. 1 if a gas or vapor, or mg/m<sup>3</sup> if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers per liter rather than 5 fibers/cc of air sampled.

Original: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

RGV/ad  
6-20-73

DO 079216  
CONFIDENTIAL

ENVIRONMENTAL HEALTH SURVEY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

DEPARTMENT: GLYCOL I      JOB CLASSIFICATION: 71 O.S.      DATE OF THIS REPORT: DEC. 1975

| CHEMICAL NAME                                                                                                                                                                                                            | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF<br>SAMPLES TAKEN | SAMPLE PERIOD<br>DATE(S) |  | TWA                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|----------------------------|--------------------------|--|------------------------------------|
|                                                                                                                                                                                                                          |                |         | HIGH            | LOW  |                            |                          |  |                                    |
| VINYL CHLORIDE                                                                                                                                                                                                           | 1              | 5       | N.D.            | N.D. | 3 For 8 Hrs                | DEC. 1975                |  | N.D.                               |
| PROPYLENE OXIDE                                                                                                                                                                                                          | 100            | 150     | 2.01            | 1.31 | " "                        | " "                      |  | 1.62                               |
| PROPION ALDEHYDE                                                                                                                                                                                                         | NONE           | —       | 1.30            | 0.70 | " "                        | " "                      |  | 0.99                               |
| VINYLDENE CHLORIDE                                                                                                                                                                                                       | 10             | 20      | N.D.            | N.D. | " "                        | " "                      |  | N.D.                               |
| PROPYLENE DICHLORIDE                                                                                                                                                                                                     | 75             | 112.5   | 0.77            | 0.59 | " "                        | " "                      |  | 0.67                               |
| EPICHLOROHYDRIN                                                                                                                                                                                                          | 5              | 10      | 0.24            | 0.10 | " "                        | " "                      |  | 0.15                               |
| CHLOROTHENE NL                                                                                                                                                                                                           | 350            | 437.5   | N.D.            | N.D. | " "                        | " "                      |  | N.D.                               |
| PROPYLENE CHLORIDE                                                                                                                                                                                                       | 75             | 112.5   | N.D.            | N.D. | " "                        | " "                      |  | N.D.                               |
| 1,2,3 TRICHLOROPROPANE                                                                                                                                                                                                   | 50             | 75      | N.D.            | N.D. | " "                        | " "                      |  | N.D.                               |
| DICHLORODIMETHYL ETHER                                                                                                                                                                                                   | 1              | 2       | 0.19            | N.D. | " "                        | " "                      |  | 0.11                               |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} = \begin{matrix} <(1) \text{ Acceptable} \\ >(1) \text{ Unacceptable} \end{matrix}$ |                |         |                 |      |                            |                          |  |                                    |
|                                                                                                                                                                                                                          |                |         |                 |      |                            |                          |  | Em - Equivalent Exposure → Mixture |

0.165

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate ->

Standard(s) TWA, Ranges & Ceilings to be reported in this Vol. if a gas or vapor, or mg/m<sup>3</sup> if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 microns/cc of air sampled.

Original: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

DEPARTMENT: GLYCOL I      JOB CLASSIFICATION: 71 S.O.T.      DATE OF THIS REPORT: DEC. 1975

| CHEMICAL NAME                                                                                                                           | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF SAMPLES TAKEN | SAMPLE PERIOD DATE(S) | TWA                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|-------------------------|-----------------------|-----------------------------------------------------------------|
|                                                                                                                                         |                |         | HIGH            | LOW  |                         |                       |                                                                 |
| VINYL CHLORIDE                                                                                                                          | 1              | 5       | N.D.            | N.D. | 5 FOR 8 HOURS           | DEC. 1975             | N.D.                                                            |
| PROPYLENE OXIDE                                                                                                                         | 100            | 150     | 5.65            | 0.27 | " "                     | " "                   | 2.58                                                            |
| PROPION ALDEHYDE                                                                                                                        | NONE           | -       | 4.22            | 0.20 | " "                     | " "                   | 2.00                                                            |
| VINYLDENE CHLORIDE                                                                                                                      | 10             | 20      | N.D.            | N.D. | " "                     | " "                   | N.D.                                                            |
| PROPYLENE DICHLORIDE                                                                                                                    | 75             | 112.5   | 2.31            | 0.43 | " "                     | " "                   | 1.08                                                            |
| EPICHLOROHYDRIN                                                                                                                         | 5              | 10      | 0.42            | 0.11 | " "                     | " "                   | 0.20                                                            |
| CHLOROTHEYLENE                                                                                                                          | 350            | 437.5   | N.D.            | N.D. | " "                     | " "                   | N.D.                                                            |
| PROPYLENE CHLORIDE                                                                                                                      | 75             | 112.5   | N.D.            | N.D. | " "                     | " "                   | N.D.                                                            |
| 1,2,3, TRICHLOROPROPANE                                                                                                                 | 50             | 75      | N.D.            | N.D. | " "                     | " "                   | N.D.                                                            |
| DICHLOROISOPROPYL ETHER                                                                                                                 | 1              | 2       | 0.15            | N.D. | " "                     | " "                   | 0.19                                                            |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} =$ |                |         |                 |      |                         |                       | (1) Acceptable<br>(1) Unacceptable<br>(+) Recap shows high 0.35 |
|                                                                                                                                         |                |         |                 |      |                         |                       | Em - Equivalent Exposure -> Mixture<br>0.27                     |

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate ->

Standard(s) TWA, Ranges & Ceilings to be reported in PPM Vol. if a gas or vapor, or mg/m<sup>3</sup> if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

RGV/ad  
6-20-73

DO 079218  
CONFIDENTIAL

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

DEPARTMENT: GLYCOL I      JOB CLASSIFICATION: 70-71- O.T.      DATE OF THIS REPORT: DEC. 1975

| CHEMICAL NAME                                                                                                                           | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF SAMPLES TAKEN | SAMPLE PERIOD DATE(S)              | TWA                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|-------------------------|------------------------------------|------------------------------------------|
|                                                                                                                                         |                |         | HIGH            | LOW  |                         |                                    |                                          |
| VINYL CHLORIDE                                                                                                                          | 1              | 5       | N.D.            | N.D. | 3 For 8 Hrs             | DEC. 1975                          | N.D.                                     |
| PROPYLENE OXIDE                                                                                                                         | 100            | 150     | 2.68            | 1.46 | " "                     | " "                                | 2.13                                     |
| PROPION ALDEHYDE                                                                                                                        | NONE           | —       | 43.47           | 0.36 | " "                     | " "                                | 14.85                                    |
| VINYLDENE CHLORIDE                                                                                                                      | 10             | 20      | N.D.            | N.D. | " "                     | " "                                | N.D.                                     |
| PROPYLENE DICHLORIDE                                                                                                                    | 75             | 112.5   | 0.74            | 0.35 | " "                     | " "                                | 0.49                                     |
| EPICHLOROHYDRIN                                                                                                                         | 5              | 10      | 0.40            | N.D. | " "                     | " "                                | 0.16                                     |
| CHLOROTHIENE N <sub>4</sub>                                                                                                             | 350            | 437.5   | N.D.            | N.D. | " "                     | " "                                | N.D.                                     |
| PROPYLENE CHLOROHYDRIN                                                                                                                  | 75             | 112.5   | N.D.            | N.D. | " "                     | " "                                | N.D.                                     |
| 1,2,3, TRICHLOROPROPENE                                                                                                                 | 50             | 75      | N.D.            | N.D. | " "                     | " "                                | N.D.                                     |
| DICHLORODISOPROPYL ETHER                                                                                                                | 1              | 2       | 0.16            | N.D. | " "                     | " "                                | 0.10                                     |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} =$ |                |         |                 |      |                         | (1) Acceptable<br>(1) Unacceptable | Em - Equivalent<br>Exposure →<br>Mixture |

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate →

Standard(s) TWA, Ranges & Ceilings to be reported in PPH Vol. 1 if a gas or vapor, or mg/m<sup>3</sup> if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

RGV/ad  
6-20-73

DO 079219  
CONFIDENTIAL

ENVIRONMENTAL HEALTH SUMMARY  
CHEMICAL EXPOSURE DATA  
LOUISIANA DIVISION

DEPARTMENT: GLYCOL I      JOB CLASSIFICATION: LABORER      DATE OF THIS REPORT: DEC. 1975

DO 079220  
CONFIDENTIAL

| CHEMICAL NAME                                                                                                                           | STANDARD (TLV) | CEILING | SAMPLE(S) RANGE |      | NUMBER OF<br>SAMPLES TAKEN | SAMPLE PERIOD<br>DATE(S)                 | TWA  |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|-----------------|------|----------------------------|------------------------------------------|------|
|                                                                                                                                         |                |         | HIGH            | LOW  |                            |                                          |      |
| VINYL CHLORIDE                                                                                                                          | 1              | 5       | N.D.            | N.D. | 2 For 8 Hrs                | DEC. 1975                                | N.D. |
| PROPYLENE OXIDE                                                                                                                         | 100            | 150     | 1.51            | 0.47 | " "                        | " "                                      | 0.99 |
| PROPION ALDEHYDE                                                                                                                        | NONE           | —       | 2.28            | 1.30 | " "                        | " "                                      | 1.79 |
| VINYLDENE CHLORIDE                                                                                                                      | 10             | 20      | N.D.            | N.D. | " "                        | " "                                      | N.D. |
| PROPYLENE DICHLORIDE                                                                                                                    | 75             | 112.5   | 0.43            | 0.36 | " "                        | " "                                      | 0.39 |
| EPICHLOROHYDRIN                                                                                                                         | 5              | 10      | N.D.            | N.D. | " "                        | " "                                      | N.D. |
| CHLOROTHENE N <sub>2</sub>                                                                                                              | 350            | 437.5   | N.D.            | N.D. | " "                        | " "                                      | N.D. |
| PROPYLENE CHLOROHYDRIN                                                                                                                  | 75             | 112.5   | N.D.            | N.D. | " "                        | " "                                      | N.D. |
| 1,2,3, TRICHLOROPROPANE                                                                                                                 | 50             | 75      | N.D.            | N.D. | " "                        | " "                                      | N.D. |
| DICHLOROISO PROPYL ETHER                                                                                                                | 1              | 2       | 0.30            | N.D. | " "                        | " "                                      | 0.15 |
| $Em = \frac{X \text{ TWA}}{X \text{ Standard}} + \frac{Y \text{ TWA}}{Y \text{ Standard}} + \frac{Z \text{ TWA}}{Z \text{ Standard}} =$ |                |         |                 |      |                            | Em - Equivalent<br>Exposure →<br>Mixture | 0.16 |

Exposure to noise (A scale) for this job classification - Equivalent Exposure Rate —————>

Standard(s) TWA, Ranges & Ceilings to be reported in PIM Vol. 1 if a gas or vapor, or mg/m<sup>3</sup> if a dust or mist. The exception is asbestos, which is to be expressed as number of fibers greater than 5 micron/cc of air sampled.

Original: Medical Department, Bldg. 2303  
cc: Department File  
cc: Environmental Health Committee, Bldg. 2304

E. HEALTH SURVEY-

DEC. 1975.

VPC CONDITIONS AND ELUTION TIMES AND COMPONENTS

I Column "A" FOR FOLLOWING:

| ITEM            | ELUTION TIME | FACTOR   |
|-----------------|--------------|----------|
| CS <sub>2</sub> | 40-58        | —        |
| Nu              | 59           | 0.000751 |
| PDC             | 93           | 0.000549 |
| EDI             | 157          | 0.000968 |
| PLH             | 224          | 0.000153 |
| PLH             | 277          | —        |
| TLP             | ?            | —        |
| DLIRE           | 427          | 0.003092 |

RANGE 10

ATT X 1

SAMPLE SIZE 1ul

COLUMN TEMP 150°C

INJECT TEMP. 150°C

DETECTOR TEMP. 200°C

INST VPC - H.P. 5710A

COLUMN - 6' X 3/16 S.S. 10% CARBOWAX 20 M  
ON Chromosorb G, AW, 60/80 MESH

E. HEALTH SURVEY

DEC- 1975

VPL CONDITIONS, ELUTION TIMES AND COMPONENTS

II COLUMN "B" FOR FOLLOWING:

| ITEM            | ELUTION TIME | FACTOR   |
|-----------------|--------------|----------|
| UNKNOWN         | 40           | —        |
| UCL             | 210          | 0.000395 |
| P.O             | 2400         | 0.000811 |
| VLD             | 420          | 0.001008 |
| CS <sub>2</sub> | 430          | —        |
| P.AID-          | 410          | 0.000673 |

RANGE FOR UCL- 1 FOR REST 10

ATT " " X 2 " " X 1

Sample size 1 ul

COLUMN TEMP - Program

Program - 100°C (for 4min)  $\xrightarrow{16^\circ\text{C}}$  190°C (0 min)

INJECT TEMP - 150°C

DETECTOR TEMP 200°C

FIRST VPL - H.P. 5710 A

COLUMN - 10' X 1/8" S.S. Porapak Q.

FOR QUICKER AND BETTER SEPARATION  
OF COL. B (Porapak Q) for VCL, PO,  
VLD, PAID -

PROGRAM:  $120^{\circ}\text{C}$  (8 min)  $\xrightarrow{32^{\circ}\text{C}}$   $190^{\circ}$  (0 min)  
(490 sec) (12 sec)

| ITEM            | ELUTION TIME |
|-----------------|--------------|
| UNKNOWN         |              |
| VCL             | 137 sec      |
| PO              | 300          |
| P.AID           | 329          |
| VLD             | 351          |
| CS <sub>2</sub> | 369          |

PLATE 1 X 4  
" 1 X 2

MAKING STANDARDS FOR CS<sub>2</sub> AND CHARCOAL  
METHOD OF ENVIRONMENTAL TESTING

EQUIPMENT: BOTTLE WITH MINI-PORT VALVE  
CARBON DISULFIDE - 20 mls -  
Chemicals.

PROCEDURE: PIPET 20 mls CS<sub>2</sub> INTO M-N. BOTTLE.  
Inject 5ul of each component. SHAKE  
and then inject sample into UPC.

CALCULATIONS: ① 
$$\frac{(\text{S.G. of component}) (5 \text{ ul})}{20 \text{ mls CS}_2} = \text{mg/ml}$$

② 
$$\frac{\text{mg/ml}}{(\text{peak height}) \text{ OR DIVISIONS}} = \text{factor -}$$

12-8-75

STANDARD AND FACTOR FOR P.O

$$\textcircled{1} \quad \frac{S.G \times 5 \text{ ml}}{20 \text{ ml}} = \text{mg / ml}$$

$$\textcircled{2} \quad \frac{0.831 \times 5}{20} = 0.2077 \text{ mg/ml}$$

$$\textcircled{3} \quad \frac{0.2077}{256} = 0.000811$$

12-8-75

STANDARD AND FACTOR FOR PDC

$$\textcircled{1} \quad \frac{S.G. \times 5 \text{ ml}}{20 \text{ ml}} = \text{mg/ml}$$

$$\textcircled{2} \quad \frac{1.159 \times 5}{20} = 0.28975$$

$$\textcircled{3} \quad \frac{0.28975}{528} = 0.000549$$

12-8-75

STANDARD AND FACTOR FOR EPI

$$\textcircled{1} \quad \frac{S.G \times 5 \mu l}{20 \mu l} = \text{mg/ml}$$

$$\textcircled{2} \quad \frac{1.193 \times 5}{20} = 0.29825$$

$$\textcircled{3} \quad \frac{0.29825}{308} = 0.000968$$

12-8-75

STANDARD AND FACTOR FOR DCIPE

$$\textcircled{1} \quad \frac{S.G. \times 5 \text{ ml}}{20 \text{ ml}} = \text{mg/ml}$$

$$\textcircled{2} \quad \frac{1.113 \times 5}{20} = 0.2782$$

$$\textcircled{3} \quad \frac{0.2782}{90} = 0.003092$$

12-8-75

STANDARD AND FACTOR FOR VLD

$$\textcircled{1} \quad \frac{5.6 \times 5}{20} = \text{mg/ml}$$

$$\textcircled{2} \quad \frac{1.250 \times 5}{20} = 0.3125$$

$$\textcircled{3} \quad \frac{0.3125}{310} = 0.001008$$

12-8-75

STANDARD AND FACTOR FOR P. AID

$$(1) \quad \frac{S.G \times 5ml}{20 ml} = mg/ml$$

$$(2) \quad \frac{0.807 \times 5}{20} = 0.20175$$

$$(3) \quad \frac{0.20175}{280 (4ml)} = 0.000721$$

$$(4) \quad \frac{0.20175}{350 (5ml)} = 0.000576$$

$$5 \quad \frac{0.20175}{300} = 0.000673$$

12-8-75

STANDARD AND FACTOR FOR Chlorothene Net

$$\textcircled{1} \quad \frac{5.6 \times 5 \text{ ml}}{20 \text{ ml}} = \text{mg/ml}$$

$$\textcircled{2} \quad \frac{1.346 \times 5}{20} = 0.3365$$

$$\textcircled{3} \quad \frac{0.3365}{448} = 0.000751$$

12.8-75

STANDARD AND FACTOR FOR PCH

$$\textcircled{1} \quad \frac{\text{S.G} \times 5 \text{ ml}}{20 \text{ ml}} = \text{mg/ml}$$

$$\textcircled{2} \quad \frac{1.103 \times 5}{20} = 0.2757$$

$$\textcircled{3} \quad \frac{0.2757}{180} = 0.001532$$