



DOW CHEMICAL U.S.A.

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LOUISIANA DIVISION
P. O. BOX 150
PLAQUEMINE, LOUISIANA 70764
804 389-8000

Dr. M. F. Currier
Medical Director
Building 2303

cc: G. W. Daigre
F. A. Ekker
A. E. Kirby
C. L. Melancon
✓J. L. Moreau

W. J. Neely
B. Smallridge
R. E. Walker
J. D. Weldon

PERSONNEL EXPOSURE DURING BENZENE BARGE LOADING

The following are results of monitoring data on three benzene barges loaded on Marine Dock No. 2 on 10-3-80, 10-20-80 and 10-21-80. The data are comparisons of urinary phenol levels to time-weighted personnel exposure samples collected while the barges were being loaded. There is a definite correlation between exposure levels and increased urinary phenols. The higher the exposure, the higher the urinary phenol level. This data was discussed with Al Kirby and Don Fabre of the Marine Department. The monitoring data will be reviewed with the employees, and the following actions were agreed upon to prevent these exposure levels from recurring:

1. Strictly enforce the use of proper respiratory protection on the barge and walkways during the entire time that a benzene barge is being hooked up, loaded and disconnected.
2. Monitor the control room during loading for possible benzene vapors from clothing or other sources.
3. Proceed as rapidly as possible to complete construction and installation of the blower to remove benzene vapors while the barges are being loaded.
4. Continue program of biological monitoring using urinary phenol measurements and area and personnel exposure sampling to determine benzene levels on the barge and dock.
5. The same precautions will be taken when loading C-5 barges.


Charlie Halphen
Industrial Hygiene

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Attachment

MONITORING DATA
URINARY PHENOLS VS. BENZENE EXPOSURE LEVELS

<u>Date</u>	<u>Job</u>	<u>Description</u>	<u>Urinary Phenol mg/l</u>			<u>ppm</u>	<u>Duration</u>	<u>Sample No.</u>
			<u>Before</u>	<u>After</u>	<u>Net</u>	<u>Bz</u>		
<u>Barge - PC-2805</u>								
10-3-80	Marine Operator	Loading	65	76	+11	15.9	9 hours	01474
10-3-80	Marine Operator	Loading	2	91	+89	138.5	7 hours	01475
10-3-80	Area Sample	Deck of Barge				741 +	7 hours	
<u>Barge - PC-2805</u>								
10-21-80	Supervisor	Control Room & Dock	68	61	- 7	0.8	2 hours	01608
10-21-80	Marine Operator	Dock & Barge	71	159	+88	81.0	2 hours	01609
10-21-80	Marine Operator	Dock & Barge	4	97	+93	150.9	2 hours	10610
10-21-80	Area Sample	Deck of Barge				52.8	4.5 hours	01607
<u>Barge - PC-2804</u>								
10-20-80	Marine Operator	Dock & Barge	5	79	+74	84.9	9 hours	01605
10-20-80	Area Sample	Deck of Barge				81.0	11 hours	01606

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