

**LOUISIANA DIVISION INDUSTRIAL HYGIENE REPORT
THE DOW CHEMICAL COMPANY**

LAD-95-1982-3
File Number

12/29/95
Date

Title: Results of Monitoring Conducted at the Dowanols Facility for Dowanol PM, Dowanol DPM, Dowanol, TPM, Dowanol EB, Dowanol DB, n-Butanol, Ethylene Oxide, Monoethanolamine, Diethanolamine, and Triethanolamine During 1982.

SUMMARY:

During 1982 monitoring was performed for Dowanol PM, Dowanol DPM, Dowanol, TPM, Dowanol EB, Dowanol DB, n-Butanol, Ethylene Oxide, Monoethanolamine, Diethanolamine, and Triethanolamine at the Dowanols Facility.

Results are presented in the attached tables.

Coversheet prepared by:

J. Paul

DISTRIBUTION:

None

Restricted for Use Within The Dow Chemical Company

DO 080441
CONFIDENTIAL

EMPLOYEE EXPOSURE SUMMARY

FILLED IN BY W. LabordDR# 9999-0020

QUARTER _____

YEAR _____

MINIMAL DETECTABLE

IHG 100 ppmPLANT D/EA BLOCK 55 STRESS Damoral LIMIT AND UNIT 0.007

PERSONNEL

EXCURSION

AREA

NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMPLE	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMPLES	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMPLES	AVG.	HIGH	** C
02	OTT								01 15	1	0.15	0.15		Damoral sample rounds				
02	OT			06 00	T	0.04	0.04		pulling pump P-140									
01	SOT								01 30	1	0.03	0.03		sample rounds				
01	OS								00 30	1	0.2	0.2		Damoral outside rounds				
05	SS																	
02	EDO								00 45	1	0.04	0.04		Damoral outside rounds				
02	LAB			08 00	T	0.02	0.02											
02	CLER.								04 00	1	0.05	0.05		loading				
02	INSTR			07 20	T	1.5	1.5		Drumming Damoral PM									
11	LABORER																	
02	CONT			07 30	✓	0.02	0.02		Damoral drainant									
13	MATL			07 40	✓	0.02	0.02											
19	MGRS/NON-OP																	
20	AREA SAMP (NO JC)																	
24	MFG.																	
26	TECH																	
28	CHEMIST																	
29	SUPV.																	
30	COORD.																	

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION

**COMMENTS

300
024th Oct
021st Oct
03

EMPLOYEE EXPOSURE SUMMARY
 FILLED IN BY W. Ladd DR# 9999-0024 QUARTER _____ YEAR _____
 PLANT O/EA BLOCK 55 STRESS Demonstration MINIMAL DETECTABLE LIMIT AND UNIT .009 mg
 INH Lab Apr

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMPLE	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMPLES	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMPLES	AVG.	HIGH	** C
01	OTT	8							0420	1	<0.03	<0.03		loading T/T 1/2				
02	OT			0500	T	<0.02	<0.02		0045	1	<0.03	<0.03		outside rounds				
03	SOT								0040	*	<0.04	<0.04		mixing catalyst for PM series (HARRIS)				
04	OS								0130	1	<0.02	<0.02		sample rounds				
05	SS								0030	1	<0.06	<0.06		outside rounds				
06	EDO																	
07	LAB			0600	1	0.21	0.21		Pulling pump A-140									
08	CLER.								0115	1	0.13	0.13		Demonstration sample rounds				
09	INSTR			0720	T	<0.02	<0.02		Drumming Panel PM									
10	LABORER			0730	T	<0.02	<0.02		Demonstration									
11	CONT																	
12	MAINT			0740	1	<0.02	<0.02											
13	MATL																	
14	CONT																	
15	MGRS/NON-																	
16	OP																	
17	AREA SAMP																	
18	(NO JC)																	
19	MFG.																	
20	MGR.																	
21	MFG																	
22	TECH																	
23																		
24	CHEMIST																	
25	S & T																	
26	SUPV.																	
27	SHIP																	
28	COORD.																	

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 **COMMENTS

FILLED IN BY W. Ladd EMPLOYEE EXPOSURE SUMMARY
 DR# 999-0018
 MINIMAL DETECTABLE
 PLANT NEA BLOCK 55 STRESS Drumming LIMIT AND UNIT 10/2 mg

QUARTER _____ YEAR 82
 IHG NE till 11/82

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMPLE	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMPLES	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMPLES	AVG.	HIGH	** C
02 03	OTT			0800	T	0.04	0.04											
07 02	SOT		2	0600	T	0.06	0.06		draining	504	0.06	0.06		drumming	2000	0.06	0.06	
03 03	SOT								0030	1	0.12	0.12		drumming	2000	0.12	0.12	
02 04	OS								0045	T	0.21	0.21		catching & analyzing samples				
02 05	SS								0035	1	0.1	0.1		replacing pump				
03 06	EDO								0330	T	0.09	0.09		drumming				
01 07	LAB	8-							0135	1	0.17	0.17		loading T/C's				
01 08	CLER.								0130	1	0.02	0.02		sample records				
01 09	INSTR								0030	1	0.06	0.06		outside records				
11	LABORER																	
02 10	CONT MAINT	5	1	0730	1	0.02	0.02		loading T/C's					over on other side				
16	MATL CONT																	
19	MGRS/NON-OP																	
02 20	AREA SAMP (NO JC)			0800	2	0.02	0.02											
24	MFG.																	
24	MGR.																	
26	MFG TECH																	
28	CHEMIST																	
04 29	S & T SUPV. OS			0800	T	0.04	0.04	C	Draining	2000	0.04	0.04		Drumming	2000	0.04	0.04	
30	SHIP COORD.																	

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 **COMMENTS

EMPLOYEE EXPOSURE SUMMARY

FILLED IN BY W. LaddDR# 9999-0017QUARTER 2 YEAR 82IHC 25

MINIMAL DETECTABLE

PLANT D/EA BLOCK 55 STRESS Normal LIMIT AND UNIT 0.006mg

PERSONNEL

EXCURSION

AREA

NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMPLE	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMPLES	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMPLES	AVG.	HIGH	** C
10th 02	OTT	8							02 45	1	0.05	0.05		loading EB 7/C				
02	OT	8							02 00	1	0.07	0.07		loading EB 7/C				
03	SOT	8							02 00	1	1.5	1.5		loading EB & drumming				
20th 03	PSA								00 30	1	0.32	0.32		drumming Normal EB				
02	OT			0800	1	0.03	0.03											
03	BO-SOT		2	0600	1	0.04	0.04	20	drumming	00				drumming				
04	LAB 05			0800	1	0.03	0.03											
02	CLER. OT								00 45	1	0.06	0.06		caught & analyzed Normal sample.				
02	INSTR								00 35	1	0.07	0.07		replacing pump				
03	LABORER								03 30	1	0.07	0.07		drumming				
01	CONT MAINT	8							01 45	1	0.12	0.12		loading T/T				
30th 02	MATL CONT			0600	+	0.14	0.14		pulling P-140									
03	MGRS/NON-OP								04 30	1	0.69	0.69		drumming Normal EB				
02	AREA SAMP (NO JC)	8		07 30	1	1.2	1.2		loading T/C's									
02	MFG.			0800	2	0.04	0.05											
02	MGR.																	
02	MFG																	
26	TECH																	
28	CHEMIST																	
29	SUPV.																	
30	SHIP																	
30	COORD.																	

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION

**COMMENTS

EMPLOYEE EXPOSURE SUMMARY
FILLED IN BY W. Ladford DR# 9558-0015 QUARTER 50 YEAR 82
MINIMAL DETECTABLE
PLANT D/EA BLOCK 55 STRESS N-Butyl LIMIT AND UNIT 0.009 mg

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMPLE	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMPLES	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMPLES	AVG.	HIGH	** C
01	OTT	8							01 35	1	CO.28	CO.28		loading Demand 7/17				
02	OT			0800	T	CO.06	CO.06											
03	SOT		2	0600	T	CO.1	CO.1		draining E04 butanol lines									
04	OS			0800	T	CO.06	CO.06		draining Demand line									
05	SS								00 30	1	CO.2	CO.2		Drumming Demand E8				
06	EDO								00 45	1	CO.13	CO.13		catching & analyzing Demand samples				
07	LAB								00 35	1	CO.17	CO.17		replacing pump				
08	CLER.								03 30	1	CO.14	CO.14		drumming				
09	INSTR								01 45	1	CO.28	CO.28		loading Demand 7/12				
10	LABORER								03 30	1	CO.2	CO.2		mixed catalyst for E8 series				
11	CONT																	
12	MAINT																	
13	MATL								08 00	1	CO.1	CO.1		mixed catalyst				
14	CONT																	
15	MGRS/NON-OP																	
16	AREA SAMP (NO JC)																	
17	MFG.																	
18	MGR.																	
19	MFG																	
20	TECH																	
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28	CHEMIST																	
29	S & T																	
30	SUPV.																	
31	SHIP																	
32	COORD.																	

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION

**COMMENTS

left out

EMPLOYEE EXPOSURE SUMMARY
FILLED IN BY W. L. L. L. DR# 9991-0026 QUARTER 3 YEAR 82
PLANT Danvers BLOCK 55 STRESS MEA MINIMAL DETECTABLE LIMIT AND UNIT 0.01 mg

PERSONNEL								EXCURSION					AREA					
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMPLE	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMPLES	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMPLES	AVG.	HIGH	** C
01	OTT																	
02	OT																	
03	SOT																	
04	OS																	
05	SS																	
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT MAINT																	
16	MATL CONT																	
19	MGRS/NON- OP																	
20	AREA SAMP (NO JC)																	
24	MFG. MFG																	
26	TECH																	
28	CHEMIST S & T																	
29	SUPV. SHIP																	
30	COORD.																	

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION

**COMMENTS

FILLED IN BY W. L. Leland EMPLOYEE EXPOSURE SUMMARY
 DR# 9999-0029 QUARTER 2 YEAR 82
 PLANT Danvers BLOCK 55 STRESS E0 MINIMAL DETECTABLE
 LIMIT AND UNIT .009 mg IHG 3 ppm

PERSONNEL									EXCURSION					AREA				
NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMPLE	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMPLES	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMPLES	AVG.	HIGH	** C
01	OTT																	
02	OT		4						00 20	1	5.6	5.6		00 20	1	5.6	5.6	
03	SOT								00 30	1	4.7	4.7		00 30	1	4.7	4.7	
04	OS		4						00 25	1	4.2	4.2		00 25	1	4.2	4.2	
05	SS																	
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT MAINT																	
16	MATL CONT																	
19	MGRS/NON- OP																	
20	AREA SAMP (NO JC)																	
24	MFG.																	
26	MGR. MFG																	
28	TECH																	
28	CHEMIST																	
29	S & T SUPV.																	
30	SHIP COORD.																	

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
 **COMMENTS

1st OT
2nd OT
3rd OT
4th OT

The Dow Chemical Company

Louisiana Division

Industrial Hygiene

Date 10/22/82 WEDLocation Dowanol

SURVEY REPORT

Calibrated (YES) NO

SAMPLE NO.	SAMPLE		UNITS	CHEMICAL SAMPLED	DURATION	SAMP. TYPE	REMARKS (CLASSIFICATION, DESCRIPTION, EMP. NAME, WEATHER, ETC.)
	DATE	CONCENTRATION					
2834	7/23/82	0.14	ppm	Dowanol EB	360 min	Pers. TWA	J. Gage, OT, Pulling P-140
		0.04	ppm	Dowanol PM			
		0.21	ppm	Dowanol DPM			
		0.06	ppm	Dowanol TSP			
2836	7/24/82	0.13	ppm	Dowanol DPM	75 min	Pers. Exc.	B. Norder, OT, Dowanol sample rounds
		BLD. *		Dowanol PM			
		20.15	ppm				
		BLD.		Dowanol TSP			
		20.22	ppm				
2841	8/13/82	0.69	ppm	Dowanol EB	270 min	Pers. TWA	W. Templest, SOT, Drumming Dowanol EB

DO 080449
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BLD = Below the Limit of Determination

Industrial Hygiene

Date 9-7-82

Location *Donnerstag*

SURVEY REPORT

Calibrated YES

NO

[illegible]

BLD = Below the Limit of Determination

DO 080450
CONFIDENTIAL

Industrial Hygiene

Location Dagupan

Calibrated YES

NO

[illegible]

The Dow Chemical Company

Louisiana Division

Industrial Hygiene

Date 1-28-82Location DowanolWEL

SURVEY REPORT

Calibrated (YES)

NO

SAMPLE NO.	SAMPLE DATE	CONCENTRATION	UNITS	CHEMICAL SAMPLED	DURATION	SAMP. TYPE	REMARKS (CLASSIFICATION, DESCRIPTION, EMP. NAME, WEATHER, ETC.)
330	11-16-81	B.L.D. 20.1	PPM	Dowanol EB	60 min	Pers	Joe Gage, OT Loading EB T/C
331	11-30-81	B.L.D. 20.1	PPM	Dowanol EB	60 min	Pers	Felurin Muse, OT Loading EB T/T
332	—	0.3	PPM	EB Tars 42" EB	60 min	Pers	Bob Heminger, OT Loading EB tars T/T
333	12-7-81	B.L.D. 20.1	PPM	Dowanol EB	75 min	Pers	Felurin Muse, OT Loading EB T/C
334	12-9-81	1.1 20.3	PPM	Dowanol EB Dowanol PM	80 min	Pers	Felurin Muse, OT, Loading PM T/C
319	12-21-81	B.L.D. 20.3	PPM	Dowanol PM	75 min	Pers	Charles Short, OT, Loading PM T/C
320	1-26-82	B.L.D. 20.1	PPM	Dowanol EB	30 min	Pers	Charles Short, OT, Loading EB T/T
333	1-26-82	0.4	PPM	Dowanol EB	75 min	Pers	Dwayne LeClue, OT, Loading EB T/C

DO 080452
CONFIDENTIAL



DOW CHEMICAL U.S.A.
LOUISIANA DIVISION

ENVIRONMENTAL CONTROL

REPORT OF ANALYSIS

REFERENCE NO. AN 05, 110

DATE THIS REPORT 1/27/82

CHARGE 78

DEPT Wendover

DATE SAMPLES COLLECTED 12/1/81, 1/24/82

SAMPLES Potential Personnel Exposure to DEB & DPM

ID	Concentration: Total Milligrams				REMARKS
		DEB		DPM	
00330		BLD		BLD	Front & Back sections (AN 110)
00331		BLD		BLD	"
00332		BLD		BLD	FRONT
00332		BLD		CH?	BACK
00333		BLD		BLD	Front & Back sections
00334		.206		BLD	Front
00334		BLD		BLD	Back
00319		BLD		BLD	Front & Back sections
00320		BLD		BLD	" (AN 110)
00933		.064		BLD	Front
00933		BLD		BLD	Back

METHOD C-billed H₂O extraction
GC/FID

*BLD BELOW LIMIT OF DETERMINATION

VALUES REPORTED HAVE BEEN CORRECTED FOR INTERFERENCES

MLS SOLVENT 10 ml H₂O
LIMIT OF DETERMINATION DEB - .020 mg
(WEIGHT/VOLUME) DPM - .040 mg

REMARKS _____

BY DRS SIGNED Terry Wilke

DO 080453
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DOW CHEMICAL U S A
LOUISIANA DIVISION

ENVIRONMENTAL CONTROL

REPORT OF ANALYSIS

REFERENCE NO AN 121

DATE THIS REPORT 3/17

CHARGE 28

DEPT Dowanol

DATE SAMPLES COLLECTED 3/1/82

SAMPLES Potential Personnel Exposure to Dowanol EB

ID	Concentration: Total Milligrams	REMARKS
322 F	BLD	F - front section sampling tube
B	BLD	B - back-up section "
323 F	.439	
B	BLD	
324 F	BLD	
B	BLD	

METHOD Chilled H₂O Extraction
GC/FID

MLS SOLVENT 10 mlb H₂O
LIMIT OF DETERMINATION EB - .002 mg/ml
(WEIGHT/VOLUME)

*BLD - BELOW LIMIT OF DETERMINATION

VALUES REPORTED HAVE BEEN CORRECTED FOR INTERFERENCES

REMARKS

BY DRS

SIGNED Terry Wilk

DO 080454
CONFIDENTIAL



DOW CHEMICAL U.S.A.
LOUISIANA DIVISION

ENVIRONMENTAL CONTROL

REPORT OF ANALYSIS

REFERENCE NO. AN-166,122
159

DATE THIS REPORT 7/28/82

CHARGE _____

DEPT Dowanols

DATE SAMPLES COLLECTED 6/9, 5/4, 5/19

SAMPLES Potential Personnel Exposure To Dowanols

ID	Concentration: Total milligrams				REMARKS
	n-BuOH	DowEB	DowOB		
00830	BLD	BLD	BLD		
02819	BLD	BLD	BLD		
02820	BLD	→			
02821	BLD	.023	BLD		
02825	BLD	BLD	.032		
02826	BLD	→			
00931	BLD	.007	BLD		
03400	BLD	→			
02832	BLD	→			

METHOD CS₂ extraction - GC-FID

MLS SOLVENT 10mls

LIMIT OF DETERMINATION n-BuOH - .900ug/ml

(WEIGHT/VOLUME) DowEB - .620ug/ml

DowOB - 1.2ug/ml

*BLD - BELOW LIMIT OF DETERMINATION

VALUES REPORTED HAVE BEEN CORRECTED FOR INTERFERENCES

REMARKS _____

BY L.S./Tdw

SIGNED Terry Walker

DO 080455
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DOW CHEMICAL U.S.A.
LOUISIANA DIVISION

ENVIRONMENTAL CONTROL

REPORT OF ANALYSIS

REFERENCE NO. AN 185

DATE THIS REPORT 8-19-82

CHARGE _____

DEPT Dowanol's

DATE SAMPLES COLLECTED 7/23

SAMPLES Field Validation - Dowanol Glycol Ethers

ID	Concentration: Total M. Iliograms					REMARKS
	phase	PM	EB	DPM	DB	
02835	CS ₂	BLD	BLD	BLD	BLD	
	H ₂ O	.002	BLD	BLD	BLD	
03693	CS ₂	.100	.130	.021	.216	
	H ₂ O	1.85	.280	.600	.143	
03694	CS ₂	.156	.133	.013	.043	
	H ₂ O	1.85	.328	.607	.366	
02833	CS ₂	BLD	→			
	H ₂ O	BLD	→			

METHOD CS₂ and H₂O desorption
GC-FID

*BLD BELOW LIMIT OF DETERMINATION

VALUES REPORTED HAVE BEEN CORRECTED FOR INTERFERENCES

MLS SOLVENT 5mls each
LIMIT OF DETERMINATION PM - .69 µg/ml
WEIGHT/VOLUME EB - .62 "
DPM - .87 "
DB - 1.2 "

REMARKS _____

BY DRS / TSW SIGNED Terry Wilk

DO 080456
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197
10-10-82
11
D. J.

DATE SAID IS COMPLETE

SAMPLES potential Exposure of personnel to Agent 1, 2 and 3:

[illegible]

... Tide whose danger

H₂C=O + CS₂ → L₂C + 2H₂O

*P.L. 86-360, LIMIT OF DETERMINATION

DATA REPORTED HAVE BEEN CORRECTED FOR INTERFERENCE

25 - 25 100

12:35 PM 0.90 ug/ml

ANALYST'S NAME EB OLGODZ/M

DPM 0.870 $\frac{1.29}{1.70}$

JPM 2.7 端

- 114245 -

BY

61. 7450

Terry White

DO 080457
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DO 080458
CONFIDENTIAL

DO 080459
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The Dow Chemical Company

Louisiana Division

Industrial Hygiene

Date 8-2-82Location DowanolSURVEY REPORTCalibrated YES

NO

DO 080460
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SAMPLE NO.	SAMPLE DATE	CONCENTRATION	UNITS	CHEMICAL SAMPLED	DURATION	SAMP. TYPE	REMARKS (CLASSIFICATION, DESCRIPTION, EMP. NAME, WEATHER, ETC.)
2825	5/5/82	BLD LO.13	PPM	n-Butanol	45 min	Pers. EXC.	D. Avera, OT, catching and analyzing
		BLD LO.06	"	Dowanol EB			Dowanol samples
		D.21	"	Dowanol DB			
2826	5/14/82	BLD LO.17	PPM	n-Butanol	35 min	Pers. EXC.	D. Vickers, OT, replacing pump
		BLD LO.07	"	Dowanol EB			in hole
		BLD LO.10	"	Dowanol DB			
931	5/24/82	BLD LO.14	PPM	n-Butanol	210 min	Pers. EXC.	E. Provost, SOT, drumming
		D.07	"	Dowanol EB			
		BLD LO.09	"	Dowanol DB			
2832	7/16/82	BLD LO.29	PPM	n-Butanol	105 min	Pers. EXC.	R. Landry, OTT, loading T/T
		BLD LO.12	"	Dowanol EB			
		BLD LO.17	"	Dowanol DB			

Block 55 (Down 1) Person or Area Monitored Joe Gage Sample No 00830
Monitoring for Ammonia Type Sample: ☒ Personnel ☐ Area
Ammonia EB series ☐ Excursion ☐ Other _____ Date 5/1/82
Job Classification OT Description of task performed during monitoring period
Other Chemicals Present: Ammonia including any unusual activities Ammonia
100% ammonia & 100% ammonia Ammonia
Time Started 7:15 AM
Time Stopped 3:15 PM
Beginning Flow Rate 100 c/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 100 c/min Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No E 19 mph
Calibration Equipment Used? bubble tube 64°F
NOTE: Job description must be concise and complete. Form filled in by _____



LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block Ammonia & 100% ammonia Person or Area Monitored Wade Temple Sample No 02819
Monitoring for Ammonia Type Sample: ☒ Personnel ☐ Area
Ammonia ☐ Excursion ☐ Other _____ Date 4-19-82
Job Classification S.O.T Description of task performed during monitoring period
Other Chemicals Present: Ammonia including any unusual activities Ammonia
Time Started 1 AM
Time Stopped 6 AM
Beginning Flow Rate 100 Respirator used ☒ Yes ☐ No Type? Full Face
Ending Flow Rate 100 Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No S/E @ 6 mph
Calibration Equipment Used? Tube
NOTE: Job description must be concise and complete. Form filled in by W. Temple



LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block Dynamol 55 Person or Area Monitored Dynamol Sample No 02820
Monitoring for Bustanol Type Sample: ☒ Personnel ☐ Area
Leads ☐ Excursion ☐ Other _____ Date 4/11/82
Other Chemicals Present: _____ Job Classification O.S. Description of task performed during monitoring period
ED including any unusual activities Dynamol Leads out
Time Started 2:15 pm
Time Stopped 3:15 pm
Beginning Flow Rate 100 cc/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 100 cc/min Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No Wind 15° S.E.
Calibration Equipment Used? tube Temp. 67°
NOTE: Job description must be concise and complete. Form filled in by Allen Colton



LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Dynamol Person or Area Monitored Ernest Provost Sample No 02821
Monitoring for EB Type Sample: ☒ Personnel ☐ Area
Leads ☐ Excursion ☐ Other _____ Date 4/22/82
Other Chemicals Present: _____ Job Classification SOT Description of task performed during monitoring period
none including any unusual activities Drumming EB Drums on drumming
machine.
Time Started 12:15 pm
Time Stopped 12:45 pm
Beginning Flow Rate 500 c/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 500 c/min Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No N, 15 mph, (inside building) 75°F
Calibration Equipment Used? Tube
NOTE: Job description must be concise and complete. Form filled in by Allen Colton



LOUISIANA DIVISION INDUSTRIAL HYGIENE

DO 080462
CONFIDENTIAL

Block 55 Downhole Person or Area Monitored Donal Hertz Sample No 02825
Monitoring for Downhole Type Sample: ☒ Personnel ☐ Area
EP, DP, TBH ☐ Excursion ☐ Other Date 5/5/02
Other Chemicals Present: Job Classification OT Description of task performed during monitoring period
ED, Butanol including any unusual activities setting and running downhole
meter
Time Started 7:10 AM
Time Stopped 7:55 AM
Beginning Flow Rate 500 cc/min Respirator used ☐ Yes ☒ No Type? —
Ending Flow Rate 500 cc/min Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No W, 18 mph
Calibration Equipment Used? bubble tube 61°F
NOTE: Job description must be concise and complete. Form filled in by Allen Cohen



LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Downhole Person or Area Monitored Dot Vickers Sample No 02826
Monitoring for EP, DP, TBH Type Sample: ☒ Personnel ☐ Area
☐ Excursion ☐ Other Date 5/15/02
Other Chemicals Present: Job Classification OT Description of task performed during monitoring period
including any unusual activities setting pump in hole
Time Started 8:10 AM
Time Stopped 8:15 AM
Beginning Flow Rate 500 cc/min Respirator used ☐ Yes ☒ No Type? —
Ending Flow Rate 500 cc/min Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No W, 18 mph
Calibration Equipment Used? tube 61°F
NOTE: Job description must be concise and complete. Form filled in by Allen Cohen

DO 080463
CONFIDENTIAL

Block 55Person or Area Monitored Renee Landry

Sample No 00931

Monitoring for LeadType Sample: ☐ Personnel ☐ Area☐ Excursion ☐ OtherDate 7/16/82Job Classification OT

Description of task performed during monitoring period

Other Chemicals Present:

including any unusual activities DrummingTime Started 3:30 PMTime Stopped 11:30 PMBeginning Flow Rate 100 c/min Respirator used ☐ Yes ☒ No

Type?

Ending Flow Rate 100 c/min

Wind, Temp. and Humidity

Calibration Check Prior to Monitoring? ☒ Yes ☐ NoW, 15 mph, 70°FCalibration Equipment Used? bubble tube

NOTE: Job description must be concise and complete.

Form filled in by Smile

LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 DowanolPerson or Area Monitored Renee Landry

Sample No 02832

Monitoring for EBType Sample: ☒ Personnel ☐ Area☐ Excursion ☐ OtherDate 7/16/82

Other Chemicals Present:

Job Classification OT

Description of task performed during monitoring period

including any unusual activities loading tank truckTime Started 11:25 AMTime Stopped 1:00 PMBeginning Flow Rate 100 c/min Respirator used ☐ Yes ☒ No

Type?

Ending Flow Rate 100 c/min

Wind, Temp. and Humidity

Calibration Check Prior to Monitoring? ☒ Yes ☐ NoWNW at 6 mphCalibration Equipment Used? bubble tube71°F

NOTE: Job description must be concise and complete.

Form filled in by Alton ColemanDO 080464
CONFIDENTIAL

Block 55 Dowanol
Monitoring for Dowanol
100% LFL 250

Person or Area Monitored Joe Gage

Sample No 02834

Type Sample: ☐ Personnel ☐ Area

☐ Excursion ☐ Other

Date 7/27/76

Other Chemicals Present:

Job Classification OT

Description of task performed during monitoring period

including any unusual activities pulling 0-170

Time Started 7:00 AM

Time Stopped 1:00 PM

Beginning Flow Rate 100 cc/min Respirator used ☐ Yes ☒ No

Type? ---

Ending Flow Rate 100 cc/min

Wind, Temp. and Humidity

Calibration Check Prior to Monitoring? ☒ Yes ☐ No

NNE at 5 mph

Calibration Equipment Used? bubble tube

77°F

NOTE: Job description must be concise and complete.

Form filled in by Allen Cohen

LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Dowanol
Monitoring for Dowanol
100% LFL 250

Person or Area Monitored Billy Aarden

Sample No 02836

Type Sample: ☒ Personnel ☐ Area

☐ Excursion ☐ Other

Date 7/28/76

Other Chemicals Present:

Job Classification OT

Description of task performed during monitoring period

including any unusual activities Dowanol Sample round

Time Started 10:45 AM

Time Stopped 12:00 PM

Beginning Flow Rate 100 cc/min Respirator used ☐ Yes ☒ No

Type? ---

Ending Flow Rate 100 cc/min

Wind, Temp. and Humidity

Calibration Check Prior to Monitoring? ☒ Yes ☐ No

NE at 7 mph

Calibration Equipment Used? bubble tube

90°F

NOTE: Job description must be concise and complete.

Form filled in by Allen Cohen

Block 55 Downols Person or Area Monitored Wade Temple Sample N2 02841
Monitoring for EB Type Sample: ☒ Personnel ☐ Area
☐ Excursion ☐ Other Date 8/13/82
Other Chemicals Present: Job Classification SOT Description of task performed during monitoring period
including any unusual activities Drumming EB Drums
Time Started 7:00 AM
Time Stopped 11:20 AM
Beginning Flow Rate 100 cc/min Respirator used ☐ Yes ☒ No Type?
Ending Flow Rate 100 cc/min Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No SE at 7 mph
Calibration Equipment Used? bubble tube 72° F
NOTE: Job description must be concise and complete. Form filled in by Atton Corkern



LOUISIANA DIVISION INDUSTRIAL HYGIENE

$$b_4 OH = \frac{.009 \times 24450}{24.1} = 2.97$$

$$EB = \frac{.0062 \times 12440}{118.2} = 1.282$$

$$DB = \frac{.012 \times 162.2}{1.809}$$

2432

$$\frac{.5}{5.5} \text{ min} \times 1 \text{ dpp} = 10.5 \text{ L}$$

2815

$$\frac{.5}{5.7} \text{ min} \times 1 \text{ dpp} = 8.0 \text{ L}$$

936

$$\frac{.5}{4.0} \text{ min} \times 1 \text{ dpp} = 4.5 \text{ L}$$

2113

$$4.5 \text{ min} \times 0.5 \text{ dpp} = 2.25 \text{ L}$$

282

$$3 \text{ min} \times 1 \text{ dpp} = 3 \text{ L}$$

2820

$$\frac{.5}{4.0} \text{ min} \times 0.5 \text{ dpp} = 2.5 \text{ L}$$

2826

$$3.5 \times 0.5 \text{ dpp} = 1.75 \text{ L}$$

13

$$\frac{.5}{1.0} \text{ min} \times 0.5 \text{ dpp} = 1 \text{ L}$$

Block 55 Person or Area Monitored Charles Short Sample No 00324
Monitoring for Down's Type Sample: ☒ Personnel ☐ Area
EB ☐ Excursion ☐ Other _____ Date 2-17-82
Job Classification OT Description of task performed during monitoring period
including any unusual activities Loading EB TIS
Other Chemicals Present: DB
Time Started 8:45
Time Stopped 1130
Beginning Flow Rate Source/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate _____ Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No N 15 MPH 57° F
Calibration Equipment Used? Bubbler
NOTE: Job description must be concise and complete. Form filled in by Steve Smith



LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Person or Area Monitored Charles Short Sample No 00322
Monitoring for Dow Acet Type Sample: ☒ Personnel ☐ Area
EB ☐ Excursion ☐ Other _____ Date 2-5-82
Job Classification OT Description of task performed during monitoring period
including any unusual activities Loading EB TIC
Other Chemicals Present: DB
Time Started 1:00
Time Stopped 11:00
Beginning Flow Rate 500 cfm Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate _____ Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☐ Yes ☒ No S 15 MPH 41° F
Calibration Equipment Used? _____
NOTE: Job description must be concise and complete. Form filled in by Steve Smith



LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Person or Area Monitored Charles Short Sample No 00323
Monitoring for Dow Acet Type Sample: ☒ Personnel ☐ Area
EB ☐ Excursion ☐ Other _____ Date 2-10-82
Job Classification SOT Description of task performed during monitoring period
including any unusual activities Loading EB Drilling
Other Chemicals Present: DB
Time Started 1:30
Time Stopped 3:30
Beginning Flow Rate 500 cfm Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 500 cfm Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No 46° F E 15 MPH
Calibration Equipment Used? Bubbler
NOTE: Job description must be concise and complete. Form filled in by Steve Smith

DO 080469
CONFIDENTIAL

Block 55 Person or Area Monitored JOC GAGE Sample No 00330
Monitoring for Dowaxels Type Sample: ☒ Personnel ☐ Area
EB ☐ Excursion ☐ Other _____ Date 11-16-81
Job Classification OT Description of task performed during monitoring period
including any unusual activities Loading EB TIC
Other Chemicals Present: N/A
Time Started 9:30
Time Stopped 10:30
Beginning Flow Rate 500cc/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate _____ Wind, Temp. and Humidity
64° SE 15 mph
Calibration Check Prior to Monitoring? ☒ Yes ☐ No
Calibration Equipment Used? _____
NOTE: Job description must be concise and complete. Form filled in by Smith



LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Person or Area Monitored Feloria MUSE Sample No 00331
Monitoring for EB Type Sample: ☒ Personnel ☐ Area
☐ Excursion ☐ Other _____ Date 11-30-81
Job Classification OT Description of task performed during monitoring period
including any unusual activities Loading IIT of Dowaxels
Other Chemicals Present: N/A
Time Started 8:20
Time Stopped 9:20
Beginning Flow Rate 500/cc/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate _____ Wind, Temp. and Humidity
69° NW 15 mph
Calibration Check Prior to Monitoring? ☒ Yes ☐ No
Calibration Equipment Used? yes
NOTE: Job description must be concise and complete. Form filled in by Steve Smith

Block 55 Person or Area Monitored Bob Heminger Sample No 00332
Monitoring for EB TARS Type Sample: ☒ Personnel ☐ Area
☐ Excursion ☐ Other _____ Date _____
Job Classification OT Description of task performed during monitoring period
Other Chemicals Present: including any unusual activities Loading EB TARS TIT
Time Started 10:20
Time Stopped 11:20
Beginning Flow Rate 500 cc/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate _____ Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☐ Yes ☒ No 61° NW 15 MPH
Calibration Equipment Used? _____
NOTE: Job description must be concise and complete. Form filled in by Steve Smith



LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Person or Area Monitored Felupin Murr Sample No 00333
Monitoring for _____ Type Sample: ☒ Personnel ☐ Area
Downhole EB ☐ Excursion ☐ Other _____ Date 12-7-21
Job Classification OT Description of task performed during monitoring period
Other Chemicals Present: including any unusual activities Loading Downhole IP TAIL CUP
Time Started 8:20 A.M.
Time Stopped 9:35 AM
Beginning Flow Rate 500 cc/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate _____ Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No West 15 MPH 55° F
Calibration Equipment Used? TOL
NOTE: Job description must be concise and complete. Form filled in by Smith



LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Person or Area Monitored Arbup in Music Sample No 00334
Monitoring for Dioxins Type Sample: ☒ Personnel ☐ Area
PM ☐ Excursion ☐ Other _____ Date 12-9-81
Job Classification OT Description of task performed during monitoring period
including any unusual activities Loading Dioxins PM TIC
Other Chemicals Present: _____
Time Started 9:25 AM
Time Stopped 10:45 AM
Beginning Flow Rate 5000 cfm Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 5000 cfm Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☐ Yes ☒ No 20 MPH S 52° F
Calibration Equipment Used? _____
NOTE: Job description must be concise and complete. Form filled in by Smith



LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Person or Area Monitored Charles Short Sample No 00319
Monitoring for Dioxins PM Type Sample: ☒ Personnel ☐ Area
APP 7 PM ☐ Excursion ☐ Other _____ Date 12-21-81
Job Classification OT Description of task performed during monitoring period
including any unusual activities Loading PM TIC
Other Chemicals Present: _____
Time Started 9:45
Time Stopped 1100
Beginning Flow Rate 5000 cfm Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 5000 cfm Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No NW 15 MPH 55° F
Calibration Equipment Used? SPS
NOTE: Job description must be concise and complete. Form filled in by _____



LOUISIANA DIVISION INDUSTRIAL HYGIENE

DO 080472
CONFIDENTIAL

Block 55 Person or Area Monitored Charles Shurt Sample No 00320
Monitoring for Downhol Type Sample: ☒ Personnel ☐ Area
1 B ☐ Excursion ☐ Other _____ Date 1-26-82
Job Classification OT Description of task performed during monitoring period
including any unusual activities loading TIT EB
Other Chemicals Present: _____
Time Started 8:00
Time Stopped 2:00
Beginning Flow Rate 5000 l/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 5000 l/min Wind, Temp. and Humidity
SE 20 50
Calibration Check Prior to Monitoring? ☒ Yes ☐ No
Calibration Equipment Used? Bubble
NOTE: Job description must be concise and complete. Form filled in by Steve Smith
 LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Person or Area Monitored DWAYNE LeCLUE Sample No 00933
Monitoring for Downhol EB Type Sample: ☒ Personnel ☐ Area
☐ Excursion ☐ Other _____ Date 1-26-82
Job Classification OT Description of task performed during monitoring period
including any unusual activities loading EB TIC
Other Chemicals Present: OS, Butanol
Time Started 2:50 PM
Time Stopped 10:50 PM
Beginning Flow Rate 5000 l/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate _____ Wind, Temp. and Humidity
SE 20 MPH 40° F
Calibration Check Prior to Monitoring? ☒ Yes ☐ No
Calibration Equipment Used? Bubble Tube
NOTE: Job description must be concise and complete. Form filled in by Steve Smith
 LOUISIANA DIVISION INDUSTRIAL HYGIENE

The Dow Chemical Company

Date 11-19-82

Louisiana Division

Location Dowanol/Ethanolamines

Industrial Hygiene

SURVEY REPORTCalibrated YES

NO

LE NO.	SAMPLE DATE	CONCENTRATION	UNITS	CHEMICAL SAMPLED	DURATION	SAMP. TYPE	REMARKS (CLASSIFICATION, DESCRIPTION, EMP. NAME, WEATHER, ETC.)
78	6/14/82	B.L.D. * 20.1	PPM	MEA	480 min.	Pers. TWA	C. Short, OT, amines lab and outside rounds
		20.06	"	DEA			
		20.04	"	TEA			
79	6/18/82	B.L.D. 20.08	PPM	MEA	120 min.	Pers. Exc.	B. Heminger, OT, Loading T/T
		20.05	"	DEA			
		20.03	"	TEA			
80	6/24/82	B.L.D. 20.14	PPM	MEA	350 min.	Pers. TWA	D. Vickers, OT, Fire watch by TEA
		20.08	"	DEA			Storage Tank
		20.06	"	TEA			
82	6/16/82	B.L.D. 20.1	PPM	MEA	495 min.	Pers. TWA	F. Muse, OT, amines outside rounds
		20.06	"	DEA			and sampling NH ₃ Car.
		20.04	"	TEA			

DO 080475
CONFIDENTIAL

* R1A = R.L. + 11.1

The Dow Chemical Company
Louisiana Division
Industrial Hygiene

Date 11-19-82

Location Dowand / Ethanolamines

SURVEY REPORT

Calibrated ☒ YES

NO

PLE NO.	SAMPLE DATE	CONCENTRATION	UNITS	CHEMICAL SAMPLED	DURATION	SAMP. TYPE	REMARKS (CLASSIFICATION, DESCRIPTION, EMP. NAME, WEATHER, ETC.)
24	5/3/82	B.L.D. * 20.2	PPM	MEA	50 min.	Pers. Exc.	Ricard L. Ricard, OTT, Afternoon lab round with
		20.1	"	DEA			amines.
		20.08	"	TEA			
27	5/26/82	B.L.D. 21.0	PPM	MEA	10 min.	Pers. Exc.	M. Viaton, OS, Recharging borohydride
		20.6	"	DEA			pot.
		20.4	"	TEA			
29	6/4/82	0.3	PPM	MEA	135 min.	Pers. Exc.	R. Landry, OTT, Loading T/C's
		B.L.D. 20.04	"	DEA			
		20.03	"	TEA			
331	6/25/82	B.L.D. 20.3	PPM	TEA	15 min.	Pers. Exc.	B. Guillory, SOT, Recharging sodium borohydride
							pot on top of TEA Tank

DO 080476
CONFIDENTIAL

SURVEY REPORT

Location Dowanol / Ethanolamines

NO

FILE NO.	SAMPLE DATE	CONCENTRATION	UNITS	CHEMICAL SAMPLED	DURATION	SAMP. TYPE	REMARKS (CLASSIFICATION, DESCRIPTION, EMP. NAME, WEATHER, ETC.)
42	9/13/82	B.L.D. * LO.1	PPM	MEA	465 min	Pers. TWA	T. Pellowski, OS, Amines lab and outside rounds.
		LO.06	"	DEA			
		LO.04	"	TEA			
43	9/15/82	B.L.D. LO.15	PPM	DEA	210 min	Pers TWA	D. Avera, OT, Loading DEA-LFG Trucks
45	9/22/82	B.L.D. LO.3	PPM	MEA	30 min	Pers. EXC.	K. Bonanno, SOT, Swap and clean F-251 feed filter
		LO.2	"	DEA			
		LO.13	"	TEA			
48	10/14/82	B.L.D. LO.3	PPM	MEA	35 min.	Pers. EXC.	W. Tamplet, SOT, Pulled out and cleaned ethanlamines feed filters.
		LO.17	"	DEA			
		LO.12	"	TEA			

DO 080477
CONFIDENTIAL

DO 080478
CONFIDENTIAL

~~SECRET~~

9999-0026

MEA

~~ME~~

02 OT	0800	(4) $\begin{matrix} <.1 \\ <.10 \\ <.14 \\ <.10 \\ \hline 0.44 \end{matrix}$	$<.11$	$<.14$	
OS	0800	$<.1$	$<.1$		
02 OT	0200	$<.08$	$<.08$		loading T/T
OTT	0050	$<.2$	$<.2$		lab round
OS	0010	$<.0$	$<.0$		recharging knoxyline pot
OTT	0215	0.3	0.3		loading T/C's
03 SOT	0030	2 $<.3$	$<.3$		swap & clean pot amines feed filters
SOT	0025	$<.3$	$<.3$		pull out & thermal ethanol amines feed filter
OTT	0445	$<.18$	$<.18$		loading T/C's
02 OT	0035	$<.3$	$<.3$		amines outside round

.010

9999-0027

DEA

01 OT	08 00 ④	<0.06 <0.08 <0.06 <u><0.06</u> 4) .26 = <0.065	<0.06 <0.08
02 OT	06 00	<0.08 ✓	
03 OTT	00 50 ✓	<0.01	lot rounds
04 OS	00 40	<0.6 ✓	Recharging barohydrule pot
05 OT	02 15 ✓	<0.04	loading T/C's
06 OS	08 00	<0.06 ✓	lot rounds
07 OT	03 30	<0.15 ✓	loading DEA T/T's
08 SOT	00 30 ②	<0.19 <0.2 ✓	sweep + clean mine feed filler
09 OTT	04 45 ✓	<0.1	loading T/C's
10 OT	00 35 ✓	<0.17 ✓	mining outside rounds.

9999-0028

TEH

020T - 0800 20.04
 20.06
 20.04
 20.04
 20.18 20.05 20.06
 4

020T 0200 20.03 ✓ loading T/C's
 010T 0050 20.08 ✓ lab rounds
 010S 0010 ~~0010~~ ~~20.03~~ 20.4 recharging bronchial part
 010T 0215 20.03 ✓ loading T/C's
 010S 0015 20.3 ✓ recharging bronchial part
 010S 0800 20.04 ✓ lab + outside rounds
 010S 0030 ~~0030~~ 20.13 20.13 survey + clean amine feed filter
 010T 0845 20.07 ✓ loading T/C's
 020T 0035 20.12 ✓ amine outside rounds

The Dow Chemical Company
Louisiana Division
Industrial Hygiene

Date 8-2-82
Location Dowanol

DO 080482
CONFIDENTIAL

SURVEY REPORT

Calibrated (YES)

NO

SAMPLE NO.	SAMPLE DATE	CONCENTRATION	UNITS	CHEMICAL SAMPLED	DURATION	SAMP. TYPE	REMARKS (CLASSIFICATION, DESCRIPTION, EMP. NAME, WEATHER, ETC.)
830	5/7/82	BLD* 20.06	PPM	n-Butanol	480 min	Pers TWA	J. Gage, OT, outside rounds, pulled F-105
		BLD 20.03	"	Dowanol EB			filters
		BLD 20.04	"	Dowanol DB			
2819	4/19/82	BLD 20.1	PPM	n-Butanol	300 min	Pers TWA	S.O.T. W. Tamplet, draining Butanol and EO
		BLD 20.04	"	Dowanol EB			lines. Used respirator
		BLD 20.06	"	Dowanol DB			
2820	4/19/82	BLD 20.06	PPM	n-Butanol	480 min	Pers. TWA	D. Armand, O.S., draining Dowanol
		BLD 20.03	"	Dowanol EB			lines.
		BLD 20.04	"	Dowanol DB			
2821	4/23/82	BLD 20.2	PPM	n-Butanol	30 min	Pers. EXC.	E. Provost, SOT, drumming Dowanol EB.
		0.32	"	Dowanol EB			
		BLD 20.12	"	Dowanol DB			

Block 55 Downards Person or Area Monitored Charles Short Sample No 00378
Monitoring for Amines Type Sample: ☒ Personnel ☐ Area
MOA DEN TEA ☐ Excursion ☐ Other _____ Date 6/14/22
Job Classification OT Description of task performed during monitoring period
including any unusual activities Amines Lab and Outside round
Other Chemicals Present: _____
NH₃, EO
Time Started 7:00 AM
Time Stopped 3:00 PM
Beginning Flow Rate 100 cc/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 100 cc/min Wind, Temp. and Humidity
62°F NNW 8mph
Calibration Check Prior to Monitoring? ☒ Yes ☐ No
Calibration Equipment Used? Bubble tube
NOTE: Job description must be concise and complete. Form filled in by Alton Colon
 LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Person or Area Monitored Bob Harvey Jr Sample No 00379
Monitoring for Amines Type Sample: ☒ Personnel ☐ Area
☐ Excursion ☐ Other _____ Date 6-18-22
Job Classification OT Description of task performed during monitoring period
including any unusual activities Loading MED LFC TIT
Other Chemicals Present: _____
Time Started 2:00
Time Stopped 10:00
Beginning Flow Rate 500 cc/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 500 cc/min Wind, Temp. and Humidity
South 15 mph 72°F
Calibration Check Prior to Monitoring? ☒ Yes ☐ No
Calibration Equipment Used? Bubble
NOTE: Job description must be concise and complete. Form filled in by Steve Smith
 LOUISIANA DIVISION INDUSTRIAL HYGIENE

DO 080483
CONFIDENTIAL

Block SS DownholeMonitoring for AminesPerson or Area Monitored Dot VickersType Sample: ☒ Personnel ☐ Area☐ Excursion ☐ OtherSample No 00380Date 6/24/82Job Classification OT

Description of task performed during monitoring period

Other Chemicals Present:

including any unusual activities fire watching by TEA
storage tankTime Started 9:20 AMTime Stopped 3:20 PMBeginning Flow Rate 100 cc/minRespirator used ☐ Yes ☒ No

Type?

Ending Flow Rate 100 cc/min

Wind, Temp. and Humidity

Calibration Check Prior to Monitoring? ☒ Yes ☐ NoWNW 5 mphCalibration Equipment Used? bubble tube81°F

NOTE: Job description must be concise and complete.

Form filled in by

Alton Coker

LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block SS DownholeMonitoring for AminesMEA, DEA, TEAPerson or Area Monitored Felverin MuseType Sample: ☒ Personnel ☐ Area☐ Excursion ☐ OtherSample No 00932Date 6/16/82Job Classification OT

Description of task performed during monitoring period

Other Chemicals Present:

including any unusual activities making Amines outside round
sampling NH₃ CARNH₃, EOTime Started 6:45 AMTime Stopped 3:00 PMBeginning Flow Rate 100 cc/minRespirator used ☐ Yes ☒ No

Type?

Ending Flow Rate 100 cc/min

Wind, Temp. and Humidity

Calibration Check Prior to Monitoring? ☒ Yes ☐ NoNW at 8 mphCalibration Equipment Used? bubble tube73°F

NOTE: Job description must be concise and complete.

Form filled in by

Alton Coker

LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 (Dwain) Person or Area Monitored Lyndell Ricard Sample No 02824
Monitoring for amines Type Sample: ☒ Personnel ☐ Area
urea, Daa, Tea ☐ Excursion ☐ Other _____ Date 5/3/82
Other Chemicals Present: _____ Job Classification OTF Description of task performed during monitoring period
None including any unusual activities 3:00 - 3:50 P.M. in the lab
Time Started 3:00 P.M.
Time Stopped 3:50 P.M.
Beginning Flow Rate 500 cc/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 500 cc/min Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No SE at 18 mph
Calibration Equipment Used? bubble tube 84°F
NOTE: Job description must be concise and complete. Form filled in by _____
 LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Person or Area Monitored Mike D... Sample No 02827
Monitoring for Amines Type Sample: ☐ Personnel ☐ Area
☐ Excursion ☐ Other _____ Date 5-26-82
Other Chemicals Present: _____ Job Classification OTF Description of task performed during monitoring period
None including any unusual activities 3:00 - 3:50 P.M. in the lab
Time Started 1:30 P.M.
Time Stopped 1:45 P.M.
Beginning Flow Rate 500 cc/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 500 cc/min Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☐ Yes ☐ No
Calibration Equipment Used? Bubble
NOTE: Job description must be concise and complete. Form filled in by _____
 LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Person or Area Monitored Rene' Landry Sample No 02829
Monitoring for Amines Type Sample: ☒ Personnel ☐ Area
☐ Excursion ☐ Other _____ Date 6-4-82
Other Chemicals Present: _____ Job Classification OTT Description of task performed during monitoring period
Amines including any unusual activities Loading TIC's
Time Started 7:45 ✓
Time Stopped 10:00
Beginning Flow Rate 500 cc/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate _____ Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☐ Yes ☒ No NE 19 MPH 74°
Calibration Equipment Used? Bubble
NOTE: Job description must be concise and complete. Form filled in by Steve Smith



LOUISIANA DIVISION INDUSTRIAL HYGIENE

DO 080486
CONFIDENTIAL

Block 55 Person or Area Monitored Bryan Guillory Sample No 02831
Monitoring for TEA Type Sample: ☒ Personnel ☐ Area
☐ Excursion ☐ Other _____ Date 6/25/82
Other Chemicals Present: _____ Job Classification SOT Description of task performed during monitoring period
Sodium Borohydride including any unusual activities recharging Sodium Borohydride
pot on top of TEA Tank
Time Started 9:15 AM
Time Stopped 9:30 AM
Beginning Flow Rate 500 cc/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 500 cc/min Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No NW at 8 mph
Calibration Equipment Used? bubble tube 81°F
NOTE: Job description must be concise and complete. Form filled in by Alton Corbier

Block 55 Downab Person or Area Monitored Terry Pellowski Sample No 02842
Monitoring for Amines Type Sample: ☒ Personnel ☐ Area
☐ Excursion ☐ Other Date 9/13/12
Other Chemicals Present: Job Classification OS Description of task performed during monitoring period
EO, NH₃ including any unusual activities Amines Lab and outside counts
Time Started 7:15 AM
Time Stopped 3:00 PM
Beginning Flow Rate 100 cc/min Respirator used ☐ Yes ☒ No Type?
Ending Flow Rate 100 cc/min Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No w at 6 mph
Calibration Equipment Used? bubble tube 74°F
NOTE: Job description must be concise and complete. Form filled in by Alton Cohen
 LOUISIANA DIVISION INDUSTRIAL HYGIENE

DO 080487
CONFIDENTIAL

Block 55 Downab Person or Area Monitored David Averq Sample No 02843
Monitoring for Amines Type Sample: ☒ Personnel ☐ Area
primarily DEA ☐ Excursion ☐ Other Date 9/15/12
Other Chemicals Present: Job Classification OT Description of task performed during monitoring period
including any unusual activities loading DEA - LFG trucks
Time Started 7:30 AM
Time Stopped 11:00 AM
Beginning Flow Rate 100 cc/min Respirator used ☐ Yes ☒ No Type?
Ending Flow Rate 100 cc/min Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☒ Yes ☐ No SE at 5 mph
Calibration Equipment Used? bubble tube 71°F

Block 55 DowanolMonitoring for AminesPerson or Area Monitored Keith BonannoType Sample: ☒ Personnel ☐ Area☐ Excursion ☐ OtherSample No 02845Date 9/22/82

Other Chemicals Present:

NOJob Classification SOT

Description of task performed during monitoring period

including any unusual activities SWAP and clean F-251 feed filterTime Started 1:35 PMTime Stopped 2:05 PMBeginning Flow Rate 505 cc/min Respirator used ☐ Yes ☒ NoType? -Ending Flow Rate 505 cc/min

Wind, Temp. and Humidity

Calibration Check Prior to Monitoring? ☒ Yes ☐ No5 at 15 mphCalibration Equipment Used? Bubble tube68°F

NOTE: Job description must be concise and complete.

Form filled in by Alton Coker

LOUISIANA DIVISION INDUSTRIAL HYGIENE

DO 080488
CONFIDENTIALBlock 55 - Dowanol

Monitoring for

EthanolaminesPerson or Area Monitored Wade TemplestType Sample: ☒ Personnel ☐ Area☐ Excursion ☐ OtherSample No 02848Date 10-14-82

Other Chemicals Present:

NH₃EOJob Classification SOT

Description of task performed during monitoring period

including any unusual activities Pulled out and cleaned Ethanolamines feed filtersTime Started 10:50 amTime Stopped 11:25 amBeginning Flow Rate 500 cc/min Respirator used ☐ Yes ☒ NoType? -Ending Flow Rate 500 cc/min

Wind, Temp. and Humidity

Calibration Check Prior to Monitoring? ☒ Yes ☐ NoSSE @ 2 mphCalibration Equipment Used? Bubble tube70°F

NOTE: Job description must be concise and complete.

Form filled in by Larry J. Keise

Block 55 - HowardsPerson or Area Monitored Knee SandySample No 02849Monitoring for EthanolaminesType Sample: ☒ Personnel ☐ Area☐ Excursion ☐ OtherDate 10-15-80

Other Chemicals Present:

pmJob Classification OTTDescription of task performed during monitoring period
including any unusual activities Loading Jack CarsTime Started 7:20 amTime Stopped 12:05 pmBeginning Flow Rate 100 cc/min. Respirator used ☐ Yes ☒ No

Type?

Ending Flow Rate 100 cc/min

Wind, Temp. and Humidity

Calibration Check Prior to Monitoring? ☒ Yes ☐ NoSE @ 2 mphCalibration Equipment Used? Bubble Tube48°F

NOTE: Job description must be concise and complete.

Form filled in by Gary J. Reese

LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55Person or Area Monitored David AveraSample No 02850Monitoring for EthanolaminesType Sample: ☒ Personnel ☐ Area☐ Excursion ☐ OtherDate 10-20-82

Other Chemicals Present:

EOJob Classification OTDescription of task performed during monitoring period
including any unusual activities Ethanolamines outside round.NH₃Time Started 11:10 amTime Stopped 11:45 A.M.Beginning Flow Rate 500 cc/min Respirator used ☐ Yes ☒ No

Type?

Ending Flow Rate 500 cc/min.

Wind, Temp. and Humidity

Calibration Check Prior to Monitoring? ☒ Yes ☐ NoSE @ 6 mphCalibration Equipment Used? Bubble Tube76°F

NOTE: Job description must be concise and complete.

Form filled in by Gary J. Reese

Block 55 Person or Area Monitored Ryle Green Sample No 02852
Monitoring for Ethanolamine Type Sample: ☒ Personnel ☐ Area
☐ Excursion ☐ Other Date 10-21-82
Other Chemicals Present: Acetone Job Classification OT Description of task performed during monitoring period
pre-series including any unusual activities Ethanolamine lab rounds
Time Started 7:20 am
Time Stopped 3:20 am
Beginning Flow Rate 100 cc/min Respirator used ☐ Yes ☒ No Type? _____
Ending Flow Rate 100 cc/min Wind, Temp. and Humidity S @ 5 mph
Calibration Check Prior to Monitoring? ☒ Yes ☐ No 50°F
Calibration Equipment Used? Bubble Tube Form filled in by Gary J. Reese
NOTE: Job description must be concise and complete.



LOUISIANA DIVISION INDUSTRIAL HYGIENE

[illegible]



DOW CHEMICAL U.S.A.
LOUISIANA DIVISION

ENVIRONMENTAL CONTROL

REPORT OF ANALYSIS

REFERENCE NO. AN 160

DATE THIS REPORT 5-13-82

CHARGE 28

DEPT Dowanol

DATE SAMPLES COLLECTED 5-4-82

SAMPLES Potential Personnel Exposure to Ethylene Oxide (EO)

ID	Concentration: Total Milligrams	REMARKS
2822	.02	
325	BLD	

METHOD Chilled CS₂ Extraction
GC/FID

MLS SOLVENT 10 mls CS₂

LIMIT OF DETERMINATION .873 µg/ml

*BLD BELOW LIMIT OF DETERMINATION

(WEIGHT/VOLUME)

VALUES REPORTED HAVE BEEN CORRECTED FOR INTERFERENCES

REMARKS

BY DRS

SIGNED Terry G. Smith

DO 080492
CONFIDENTIAL

Block Person or Area Monitored Sample No 00325
Monitoring for Type Sample: ☒ Personnel ☐ Area
☐ Excursion ☐ Other Date
Job Classification Description of task performed during monitoring period
including any unusual activities
Other Chemicals Present:
Time Started
Time Stopped
Beginning Flow Rate Respirator used ☐ Yes ☐ No Type?
Ending Flow Rate Wind, Temp. and Humidity
Calibration Check Prior to Monitoring? ☐ Yes ☐ No
Calibration Equipment Used?
NOTE: Job description must be concise and complete. Form filled in by



LOUISIANA DIVISION INDUSTRIAL HYGIENE

Block 55 Dowanda Person or Area Monitored Oscar Denham Sample No 02822
Monitoring for EO Type Sample: ☒ Personnel ☐ Area
☐ Excursion ☐ Other Date 4/26/82
Other Chemicals Present: NH₃, PO Job Classification O.T. Description of task performed during monitoring period
including any unusual activities Swiff! EO. 6.11/2, bled down
Time Started 1:50 PM
Time Stopped 2:10 PM
Beginning Flow Rate 100 cc/min Respirator used ☒ Yes ☐ No Type? Full FACE
Ending Flow Rate 100 cc/min Wind, Temp. and Humidity 18 mph W-NW
Calibration Check Prior to Monitoring? ☒ Yes ☐ No 82°F
Calibration Equipment Used? Bubble tube
NOTE: Job description must be concise and complete. Form filled in by Attor Cohen