

INDUSTRIAL HYGIENE REPORT
GULF COAST INDUSTRIAL HYGIENE CENTER
LOUISIANA DIVISION

AN OPERATING UNIT OF THE DOW CHEMICAL COMPANY

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Title Face Velocity Readings on Fume Hoods at the Solvents/EDC Facility, Plaquemine, Louisiana.

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Introduction An industrial hygiene ventilation survey was conducted on the fume hoods at the Solvents/EDC Facility, Building #1701, Louisiana Division, Plaquemine, Louisiana, on October 7, 1996. Face velocity measurements were taken to assess the fume hoods performance, in accordance with the surveillance plan outline in the Industrial Hygiene Program. Operating conditions during this survey were routine.

Background This facility has five fume hoods that are equipped with a flow-sensing device. The fume hoods are on an every three year industrial hygiene evaluation rotation.

Results and Conclusions The following conclusions were based on conditions that existed on the day of this survey. Changes in equipment, procedures, or other conditions that affect exposures could alter or invalidate these conclusions. The fume hoods met face velocity measurements needed for the service of operation. The smoke tube observation within the hoods showed no internal turbulence swirling back towards the face of the hood.

Observations The average face velocity (FV) and minimum face velocity (FVm) reported in feet per minute (FPM), are as follows:

Designation	Sash Opening	FV (FPM)	FVm (FPM)
Lab Hood #1	18"	176	136
Lab Hood #2	18"	182	159
Lab Hood #3	18"	188	139
Lab Hood #4	18"	175	135
Lab Hood #5	18"	194	176

For more detailed information on individual hood evaluation, see attachment.

Recommendations • Personnel should wear hearing protection while operating Lab Hood #5. The noise level has been measure above 95 dB. Engineering controls should be consider to reduce the levels within a safe range.

Equipment Used The Alnor Model #8925 Thermo Anemometer, Serial #1326, was used to take face velocity measurements at specific grid locations.

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Quality Assurance The Alnor Thermo Anemometer was calibrated by the manufacturer in February 1995. A recheck for zero condition was done before and after each use according to manufacturers' recommendation.

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Distribution List

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INDUSTRIAL HYGIENE HOOD PERFORMANCE TESTING DATA

PLANT: Solvents/EDC
 HOOD I.D.: Process Lab Hood #1

DATE: October 7, 1996
 EVALUATED BY: Charles Douglas

Static Pressure Reading 1.3.

Hood Face Velocity Readings at a(n) 18" Sash Opening:

201		202		175
178	184	160	172	166
189		142		136

Smoke Tube Observations With a(n) 18" Sash Opening -

****MODERATE (Air capture by hood is strong and well defined with minimal internal turbulence and no observable smoke swirling back to hood face when person stands at hood face.)

Designation	Sash Hood Opening	(FPM) FV	(FPM) FVm	Classification
Process Lab Hood #1	18"	176	136	"A"

Used the Alnor Model 8925 Thermo Anemometer.

FV = Average Face Velocity
 FVm = Minimum Measurement
 FPM = Feet Per Minute

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INDUSTRIAL HYGIENE HOOD PERFORMANCE TESTING DATA

PLANT: Solvents/EDC
 HOOD I.D.: Process Lab Hood #2

DATE: October 7, 1996
 EVALUATED BY: Charles Douglas

Static Pressure Reading .65

Hood Face Velocity Readings at a(n) 18" Sash Opening:

198		201		196
185	171	180		180
181		169		159

Smoke Tube Observations With a(n) 18" Sash Opening -

****MODERATE (Air capture by hood is strong and well defined with minimal internal turbulence and no observable smoke swirling back to hood face when person stands at hood face.)

Designation	Sash Hood Opening	(FPM) FV	(FPM) FVm	Classification
Process Lab Hood #2	18"	182	159	"A"

Used the Alnor Model 8925 Thermo Anemometer.

FV = Average Face Velocity
 FVm = Minimum Measurement
 FPM = Feet Per Minute

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INDUSTRIAL HYGIENE HOOD PERFORMANCE TESTING DATA

PLANT: Solvents/EDC
 HOOD I.D.: Process Lab Hood #3

DATE: October 7, 1996
 EVALUATED BY: Charles Douglas

Static Pressure Reading 2.6.

Hood Face Velocity Readings at a(n) 18" Sash Opening:

203	139	222
180	182	195
197	184	187

Smoke Tube Observations With a(n) 18" Sash Opening -

****MODERATE (Air capture by hood is strong and well defined with minimal internal turbulence and no observable smoke swirling back to hood face when person stands at hood face.)

Designation	Sash Hood Opening	(FPM) FV	(FPM) FVm	Classification
Process Lab Hood #3	18"	188	139	"A"

Used the Alnor Model 8925 Thermo Anemometer.

FV = Average Face Velocity
 FVm = Minimum Measurement
 FPM = Feet Per Minute

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INDUSTRIAL HYGIENE HOOD PERFORMANCE TESTING DATA

PLANT: Solvents/EDC
 HOOD I.D.: Process Lab Hood #4

DATE: October 7, 1996
 EVALUATED BY: Charles Douglas

Static Pressure Reading **3.2.**

Hood Face Velocity Readings at a(n) **18"** Sash Opening:

244		211		203
157	135	166	175	179
158		145		165

Smoke Tube Observations With a(n) **18"** Sash Opening -

****MODERATE (Air capture by hood is strong and well defined with minimal internal turbulence and no observable smoke swirling back to hood face when person stands at hood face.)

Designation	Sash Hood Opening	(FPM) FV	(FPM) FVm	Classification
Process Lab Hood #4	18"	175	135	"A"

Used the Alnor Model 8925 Thermo Anemometer.

FV = Average Face Velocity
 FVm = Minimum Measurement
 FPM = Feet Per Minute

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LOUISIANA DIVISION
INDUSTRIAL HYGIENE HOOD PERFORMANCE TESTING DATA

PLANT: Solvents/EDC
HOOD I.D.: Process Lab Hood #5

DATE: October 7, 1996
EVALUATED BY: Charles Douglas

Static Pressure Reading **3.2**.

Hood Face Velocity Readings at a(n) **18"** Sash Opening:

210	190	210
205	180	191
190	176	190

Smoke Tube Observations With a(n) **18"** Sash Opening -

****MODERATE (Air capture by hood is strong and well defined with minimal internal turbulence and no observable smoke swirling back to hood face when person stands at hood face.)

Designation	Sash Hood Opening	(FPM) FV	(FPM) FVm	Classification
Lab Hood #1	18"	194	176	"A"

Used the Alnor Model 8925 Thermo Anemometer.

FV = Average Face Velocity
FVm = Minimum Measurement
FPM = Feet Per Minute

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