INTEROFFICE COMMUNICATION

FILE COPY

MIDWEST RESEARCH INSTITUTE

June 22, 1984

To: Magnetic Tape Project File
MRI Project No. 7701-L; ESED Project No. 83/18

From: Cecily Beall

Subject: Summary of Nonconfidential Information on U.S. Magnetic Tape Coating Facilities

Table 1 summarizes the nonconfidential data available on products, line dimensions, coating application methods, and oven parameters. Table 2 summarizes the nonconfidential data available on coating mix formulation and preparation.

Note: This is a reference cited in *AP 42, Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources.* AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

TABLE 1. LINE AND PROCESS INFORMATION FOR MAGNETIC TAPE COATING FACILITIES

Facility name and location	Type of product[a]	Line information			Type of coaters	Oven information			
		No.	Width, in.	Speed, ft/min		Temp., °F	Exhaust rate[b]	% LEL[c]	
American Video Tape, Calif.	V[d]	1[e]		360scfm[f]		180[f]	2,500scfm[f]		
Ampex Corp., Ala.[g]	A V	7	26 each	175-500	4 roll reverse-roll; roto-gravure				3 zones; 85% air recyle; air pre-conditioning
BASF, Mass.[h]	A, V C	>2	26 each	200-600		150-175		40	2-6 zones; air recirculation
Capitol Magnetics, Conn.[i]	A	2	24 each	450-650		150-230		25-35	
Certron, Calif.[j]	A	2	26, 13	210-300	3 roll reverse-roll	165-270			
Columbia Magnetics, Ga.[k]	A	1	26 (design); 13 (actual)	1,000 (design); 600 (actual)	Slot die	170	11,000 acfm (includes air from coater)	10-15	
IBM, Ariz.[l]	C	1			New, proprietary	150	6,800 scfm	35	
IBM, Colo.[m]	C	1 1	24 48	200 200 (range 170 to 200)	Gravure	97 (for 24 in. line) 118 (for 48 in. line)	3,000 scfm (for 24 in. line); 8,000 scfm (for 48 in. line). Includes air from coater		3 zones; air recycle; air preconditioning
Memorex, Calif.[n,o]	C	5 1	24 6						
3M Co., Calif.	C[p]	4[q]		200-500[r]		150[r]	12,000scfm[r]		
3M Co., N.J.	A[p]	1[s]							
Pfizer, Pa.[t]		1	3						
Spectrotape, Calif.	A,V[d]	6[e]							
Syncom, S.D.[u]	C	1		400		180			
Tandy, Calif.	A,V[v]	2[n]							
Tandy, Tex.	A[p]	3[w]					10,000 scfm (total from 3 lines)[w]		
Computer Resources, Ill.	C[p]	1[x]	6[x]						

(continued)

TABLE 1. (continued)

Facility name and location	Type of product[a]	Line information			Type of coaters	Oven information		
		No.	Width, in.	Speed, ft/min		Temp., °F	Exhaust rate[b]	% LEL[c]
Verbatim, Calif.	C[d]	3[y] (one research)						
Wabash DataTech, Ill.	C[p]	3[z]						

[a]A = Audio; V = Video; C = Computer.
[b]acfm = actual cubic feet per minute; scfm = standard cubic feet per minute.
[c]scfm = standard cubic feet per minute
[c]LEL = Lower exposure limit.
[d]Memorandum from Beall, C., MRI, to Magnetic Tape Project File. March 4, 1983. Confirmation of magnetic tape manufacturing facilities.
[e]Telecon. Beall, C., MRI, with Rhett, G., California South Coast Air Quality Management District. January 18, 1983. Information on four magnetic tape coating facilties.
[f]Letter and attachment from Weiler, H., American Video Tape, to Farmer, J., EPA:ESED. February 13, 1984. Response to Section 114 information request.
[g]Memorandum from Beall, C., MRI, to Johnson, W., EPA:CPB. March 22, 1983. Report of visit to Ampex Corp., Opelika, Ala.
[h]Memorandum from Meyer, J., MRI, to Johnson, W., EPA:CPB. October 7, 1983. Report of visit to BASF Systems, Bedford, Mass.
[i]Memorandum from Johnson, W., EPA:CPB, to Berry, J., EPA:CPB. June 8, 1982. Report of visit to Capitol Magnetic Products, Glenbrook, Conn.
[j]Letter and attachment from Lazartic, J., Ms. Taylor, and Mr. Patel, Certron Corp., to Farmer, J., EPA:ESED. May 25, 1983. Response to Section 114 information request.
[k]Memorandum from Meyer, J., MRI, to Johnson, W., EPA:CPB. March 10, 1983. Report of visit to Columbia Magnetic Products, Carrollton, Ga.
[l]Letter and attachments from Lusk, L., IBM Corp., to Farmer, J., EPA:ESED. June 28, 1983. Response to Section 114 information request for Tuscon, Ariz. plant.
[m]Memorandum and attachment from Buzenberg, R., DPRA, to Johnson, W., EPA:CPB, and Short, B., EPA:EAB. November 30, 1981. Report of visit to IBM, Boulder, Colo.
[n]Memorandum from Buzenberg, R., DPRA, to Johnson, W., EPA:CPB, and Short, B., EPA:EAB. February 1, 1982. Report of visit to Memorex, Santa Clara, Calif.
[o]Letter and attachment from Wee, K., California Bay Area Air Quality Management District, to Beall, C., MRI. August 31, 1983. Summary of August 6, 1981, source test at Memorex, Santa Clara, Calif., facility.
[p]Memorandum from Meyer, J., MRI, to Magnetic Tape Project File. January 19, 1983. Confirmation of magnetic tape manufacturing facilities in draft Table 9.1.
[q]Telecon. Beall, C., MRI, with Flynn, B., California Ventura County Resource Management Agency. January 18, 1983. Information on the 3M, Camarillo, Calif., facility.
[r]Letter and attachments from Lee, J., 3M Co., to Farmer, J., EPA:ESED. October 24, 1983. Response to Section 114 information request.
[s]Telecon. Thorneloe, S., MRI, with Kalagnanam, R., New Jersey Bureau of Air Pollution Control. January 19, 1983. Information on 3M, Freehold, N.J., facility.
[t]Telecon. Meyer, J., MRI, to Weiss, R., Pfizer. May 20, 1983. Information on Easton, Pa., facility.
[u]Letter and attachments from Henning, T., Syncom, to Farmer, J., EPA:ESED. May 12, 1983. Response to Section 114 information request.
[v]Tandy Acquires Memorex Tape Div. Electronic News. Vol. 28. May 8, 1982. p. ____.
[w]Memorandum from Johnson, W., EPA:CPB, to Berry, J., EPA:CPB. May 11, 1982. Report on visit to Tandy Magnetic Products, Fort Worth, Tex.
[x]Telecon. Buzenberg, R., DPRA, with Morneault, J., TRI, Inc. January 11, 1982. Information about coating line.
[y]Telecon. Meyer, J., MRI, with Harper, S., Verbatim. March 3, 1983. Information on Sunnyvale, Calif., facility.
[z]Telecon. Beall, C., MRI, with Desai, S., Illinois EPA. January 17, 1983. Information on Wabash DataTech, Huntley, Ill., facility.

TABLE 2. COATING MIX AND FORMULATION INFORMATION FOR MAGNETIC TAPE COATING FACILITIES

Facility name and location	Type of product[a]	Film thickness mils[b]	Coating information: Equipment	Coating information: Preparation	Coating information: Percent VOC and density	Coating information: Solvent(s)[c]	Coating solids density lb/gal	Percent resin by weight of solids	Percent magnetic particle by weight of solids and density	Coating viscosity, centipoise	Coating thickness, mils: Wet	Coating thickness, mils: Dry
American Video Tape, Calif.[d]	V[e]				60-68% VOC by wt. 9.71 lb/gal			23.43 19.7 9.84	~~19.8~~ 38.36 lb/gal	75.18;		1.35
Ampex Corp., Ala.[f]	A V			Batch	80-90.4% VOC by vol.	5-25% THF, 20-50% MEK, 5-25% toluene, 20-50% cyclo.						
BASF, Mass.[g]	A, V C	≤0.5		Batch	55-80% VOC by wt.							0.04-0.35
Capitol Magnetics, Conn.[h]	A[h]	0.3-1			39% solids by wt.; 17% solids by vol.	Primarily THF and toluene; also MEK, MIBK and cyclo.[i]					1.4	0.2
Certron, Calif.[j]	A		Ball mills, media mills, pebble mills		84% VOC by vol.; 62% VOC by wt.; 9.4-9.5 lb/gal	~41% toluene, ~45%-49% MEK	23.6, 24.5	15.4, 17.7	77.6, 73.2; 9.8, 9.9 lb/gal	3,000, 2,000	1.3, 0.55	0.2, 0.04
Columbia Magnetics, Ga.[k]	A	0.3-0.5	Low shear mixers; sand mills	Cont.	50% VOC by wt.; 10 lb/gal	60% THF, 40% toluene					0.15-0.3	
IBM, Ariz.[l]	C					THF, MIBK						
IBM, Colo.[m]	C		Ball mills; Drais mills	Batch, cont.	57-84% VOC by wt.	0-85% THF, 15-72% MIBK 0-25% toluene					1-10	
Memorex, Calif.[n,o]	C					Cyclo.						
3M Co., Calif.	C[p]				74, 85% VOC by vol.; 64, 71% VOC by wt. 8.4-8.7, 9.1-9.3 lb/gal[q]	MEK, toluene, plus 1 or 2 others[r,s]					1.96 1.26[q]	0.3 0.2[q]
3M Co., N.J.[p]	A											
Pfizer, Pa.[t]					Very high solids content							

(continued)

TABLE 2. (continued)

Facility name and location	Type of product[a]	Film thickness, mils[b]	Coating information: Equipment	Coating information: Preparation	Coating information: Percent VOC and density	Coating information: Solvent(s)[c]	Coating solids density lb/gal	Percent resin by weight of solids	Percent magnetic particle by weight of solids and density	Coating viscosity, centipoise	Coating thickness, mils: Wet	Coating thickness, mils: Dry
Spectrotape, Calif.	A,V[e]					Cyclo.[u]						
Syncom, S.C.[v]	C				~80% VOC by vol.; ~64% VOC by wt.; 10 lb/gal	98% cyclo. plus xylene, toluene, and ethyl glycol acetate.	33	20.4-21.4	66.4-70; 40.2 lb/gal	4,500, 5,000	0.5-2.1	0.1-0.4
Tandy, Calif.	A,V[w]											
Tandy, Tex.	A[p]				20% solids and 80% solvent by vol.[x]	~50% THF, 50% toluene[y]						0.18-0.7[x]
Computer Resources, Ill.	C[p]											
Verbatim, Calif.	C[e]					Primarily THF[z]						
Wabash Data-Tech., Ill.	C[p]											
DuPont[aa]		0.88-7.50(C) 0.28-1.42(A) 0.57-0.92(V)										

(continued)

[a] A = Audio; V = Video; C = Computer.
[b] mil = 0.001 inches.
[c] THF = tetrahydrofuran; MEK = methyl ethyl ketone; MIBK = methyl isobutyl ketone; Cyclo. = cyclohexanone.
[d] Letter and attachments from Weiler, W., American Video Tape, to Farmer, J., EPA. February 13, 1984. Response to Section 114 information request.
[e] Memorandum from Beall, C., MRI, to Magnetic Tape Project File. March 4, 1983. Confirmation of magnetic tape manufacturing facilities.
[f] Memorandum from Beall, C., MRI, to Johnson, W., EPA:CPB. March 22, 1983. Report on visit to Ampex Corp., Opelika, Ala.
[g] Memorandum from Meyer, J., MRI to Johnson, W., EPA:CPB. October 7, 1983. Report of visit to BASF Systems, Bedford, Mass.
[h] Memorandum from Johnson, W., EPA:CPB, to Berry, J., EPA:CPB. June 8, 1982. Report of visit to Capitol Magnetic Products, Glenbrook, Conn.
[i] Confidential source.
[j] Letter and attachments from Lazartic, J., Ms. Taylor, and Mr. Patel, Certron Corp., to Farmer, J., EPA:ESED. May 25, 1983. Response to Section 114 information request.

TABLE 2. (continued)

[k]Memorandum from Meyer, J., MRI, to Johnson, W., EPA:CPB. March 10, 1983. Report of visit to Columbia Magnetic Products, Carrollton, Ga.
[l]Letter and attachments from Lusk, L., IBM Corp., to Farmer, J., EPA:ESED. June 28, 1983. Response to Section 114 information request for Tuscon, Ariz., plant.
[m]Memorandum and attachment from Buzenberg, R., DPRA, to Johnson, W., EPA:CPB, and Short, B., EPA:EAB. November 30, 1981. Report on visit to IBM, Boulder, Colo.
[n]Memorandum from Buzenberg, R., DPRA, to Johnson, W., EPA:CPB, and Short, B., EPA:EAB. February 1, 1982. Report of visit to Memorex, Santa Clara, Calif.
[o]Mylar® Polyester Film Price List. June 1, 1982. E. I. Du Pont de Nemours & Company, Inc.
[p]Memorandum from Meyer, J., MRI, to Magnetic Tape Project File. January 19, 1983. Confirmation of magnetic tape manufacturing facilities in draft Table 9.1.
[q]Letter and attachments from Lee, J., 3M Co., to Farmer, J., EPA:ESED. October 24, 1983. Response to Section 114 information request.
[r]Telecon. Beall, C., MRI, with Flynn, B., California Ventura County Resource Management Agency. January 18, 1983. Information on the 3M, Camarillo, Calif., facility.
[s]Draft Report--Survey of Industrial Applications of Vapor-Phase Activated-Carbon Adsorption for Control of Pollutant Compounds From Manufacture of Organic Compounds. Prepared for U. S. Environmental Protection Agency. IT Enviroscience, Inc., Knoxville, Tenn.
[t]Telecon. Meyer, J., MRI, to Weiss, R., Pfizer, Inc. May 20, 1983. Information on Easton, Pa., facility.
[u]Telecon. Beall, C., MRI, with Rhett, G., California's South Coast Air Quality Management District. January 18, 1983. Information on four magnetic tape coating facilities.
[v]Letter and attachments from Henning, T., Syncom, to Farmer, J., EPA:ESED. May 12, 1983. Response to Section 114 information request.
[w]Tandy Acquires Memorex Tape Div. Electronic News. Vol. 28. May 8, 1982. p. ____.
[x]Memorandum from Johnson, W., EPA:CPB, to Berry, J., EPA:CPB. May 11, 1982. Report on visit to Tandy Magnetic Products, Fort Worth, Tex.
[y]Confidential source.
[z]Telecon. Meyer, J., MRI, with Harper, S., Verbatim. March 3, 1983. Information on Verbatim Sunnyvale, Calif., facility.