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MEMORANDUM

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TO: Catherine Tunis (EPA/OPPE)

FROM: Suzette Apis, James Cummings-Saxton, Daphne McMurrer

SUBJECT: Initial Profile of the New Jersey Chemical Industry

Five major sources were utilized to construct a broad picture of the New Jersey chemical manufacturing industry. These included: (1) 1987 Census of Manufactures, Industry Series; (2) 1991 Annual Survey of Manufactures, Statistics for Industry Groups and Industries; (3) 1991 Annual Survey of Manufactures, Geographic Area Series; (4) New Jersey Department of Labor; and, (5) Chemical Manufacturers Association. The latter sources provided either national or regional industry information. Unfortunately, the census data cannot be consistently compared from year to year because of different publication dates.

In the context used within this memorandum, the New Jersey chemical industry includes the chemical manufacturing industry and excludes the chemical wholesale trade industry. Within publications by the U.S. Census Bureau, manufacturing industries are classified in the two-digit Standard Industrial Classification (SIC) codes ranging from 20 to 39. Included within this SIC range are establishments producing such items as tobacco products, transportation equipment, and chemicals and allied products. The word establishments denotes actual "work sites," not employers. For instance, Dow Chemical, an employer, may have seven Dow plants located within a particular region. These individual plants are termed "establishments."

GENERAL OVERVIEW

In 1992, 12,564 manufacturing establishments (SIC codes 20 to 39) operated within the state of New Jersey.¹ The majority of these facilities are located within the northern portion of the state, i.e., from Middlesex County north. Nearly seven percent of the manufacturing facilities (875 establishments) were classified as producers of chemicals and allied products (SIC code 28).² In 1992, the following five counties contained 62 percent of the New Jersey SIC 28 establishments: Bergen (140), Middlesex (135), Essex (116), Passaic (90), and Union (64).³

Most activities of New Jersey chemical firms fall within seven three-digit SIC sectors, with minor activity in an eighth sector. The seven sectors with greatest activity are:

- 281 Industrial inorganic chemicals
- 282 Plastics materials and synthetics
- 283 Drugs
- 284 Soaps, cleaners, and toilet goods
- 285 Paints and allied products
- 286 Industrial organic chemicals
- 289 Miscellaneous chemical products

In 1987, establishments involved in the eighth sector, agricultural chemicals (SIC 287), employed a work force of less than 150 employees (see Table 2-A). Excluding agricultural chemicals, the New Jersey payroll within the other seven chemical industry groups totaled \$2.8 billion dollars in 1991.⁴

¹ Personal communication with Ron Thatcher (New Jersey Department of Labor, Division of Labor Market and Demographic Research, ES202 Unit); August 4, 1995. This number is based on the number of manufacturing establishments that applied for unemployment insurance in 1992. Self-employed or family-owned establishments, which are not required to carry unemployment insurance under New Jersey law, may not be included.

² Personal communication with Bill Saley (New Jersey Department of Labor, Division of Labor Market and Demographic Research, ES202 Unit); July 26, 1995.

³ Personal communication with Ron Thatcher.

⁴ U.S. Department of Commerce, Bureau of the Census. 1991 Annual Survey of Manufactures: Geographic Area Statistics (Washington, D.C.: GPO, 1993), p. 3-82.

Historically, New Jersey has ranked with Texas, Louisiana, and California as one of the four largest chemical manufacturing states.⁵ In the 1987 Census of Manufactures, New Jersey ranked second to California in total number of chemical manufacturing establishments -- California having 1,423 chemical establishments and New Jersey 912.⁶ These numbers show that 7.6% of U.S. chemical establishments were located in New Jersey in 1987. With regard to a second metric of industry size, total number of employees, New Jersey ranked number one (in 1992).⁷ Employing 111,800 chemical industry workers, New Jersey utilized 10.3% of the U.S. chemical work force.⁸

Like the rest of the U.S. chemical industry, New Jersey chemical manufacturers have had to respond to evolving mandates for environmental regulation and policy. Regulations, such as the Clean Air Act (CAA), Resource Conservation and Recovery Act (RCRA), and Superfund Amendments and Reauthorization Act (SARA), required a reduction in chemical plant environmental releases and led to renewed emphasis on strategic environmental planning. In 1992, the total U.S. chemical industry spent \$4.4 billion dollars on pollution abatement and control.⁹ Among this, \$1.03 billion dollars were allocated to air programs, \$1.95 billion to water, and \$1.45 billion to solid wastes.¹⁰ In comparison, New Jersey firms have spent an average of \$310 million dollars annually on pollution abatement and control in recent years, representing a 7.1% share of the 1992 U.S. expenditure.¹¹

MORE ACTIVE CHEMICAL SECTORS IN NEW JERSEY

Within New Jersey, the pharmaceutical industry (SIC 283) accounts for the largest individual share of chemical activity. In fact, for many years the Chemical Manufacturers Association classified New Jersey as a pharmaceutical and specialty chemical region. In 1991, the New Jersey pharmaceutical industry payroll totaled \$1.2 billion, representing 43.6% of the entire New Jersey chemical industry payroll.¹² Likewise, this portion of the industry employed the most employees

⁵ Personal communication with Keith Christman (Chemical Manufacturers Association); July 26, 1995.

⁶ Ibid.

⁷ Ibid.

⁸ Ibid.

⁹ Ibid.

¹⁰ Ibid.

¹¹ Ibid.

¹² Ibid.

(28,500 individuals), representing 39.6% of New Jersey's chemical work force (see Table 1A). The pattern in New Jersey is similar to that in the United States as a whole. U.S. pharmaceuticals employed 21.8% of all chemical industry labor in 1991, and 21.4% in 1990.¹³

The New Jersey pharmaceutical industry group also is predominant in manufacturing shipments, based on the 1987 Census of Manufactures. In value of product shipments (1987), New Jersey ranked as the largest producer of pharmaceuticals in the U.S. in six of 12 five-digit sectors within SIC 283 (see Table 2B). In addition, New Jersey ranked second to the following three states in five other five-digit sectors: Pennsylvania (SIC 28342, 28345, and 28348), New York (SIC 28341), and California (SIC 28347).¹⁴

In addition to pharmaceuticals, New Jersey chemical manufacturers also are active in production of soaps, cleaners, and toilet goods (SIC 284) (see Tables 1A and 1B). This sector ranked second to the drug industry in number of employees and payroll for 1991 and 1990. In 1991, establishments within SIC 284 employed 23.0% of New Jersey chemical workers, and accounted for 18.7% of the 1991 payroll (see Table 1A). From a national standpoint, SIC 284 firms were the fourth largest chemical manufacturing employer, accounting for 12.1% of the entire U.S. chemical manufacturing payroll.¹⁵

CLARIFYING NOTES REGARDING ATTACHED TABLES

The six attached tables provide information that augments material covered within this memorandum. Tables 1A, 1B, and 1C present economic data by three-digit SIC code for New Jersey and the U.S. for 1990 and 1991. Table 2A compares number of chemical facilities in New Jersey vis-a-vis number in the entire U.S., broken out by four-digit SIC code. Table 2B compares value of chemical shipments in New Jersey vis-a-vis value of chemical shipments in the entire U.S., broken out by five-digit SIC code.

In terminology, "Value Added by Manufacture," the third column in tables 1A and 1B, is a measure of the manufacturing activity within a sector, adjusted to exclude the value of economic inputs obtained from other sectors, e.g., raw materials and electric power. It is derived by

¹³ U.S. Department of Commerce, Bureau of the Census. 1991 Annual Survey of Manufactures: Statistics for Industry Groups and Industries (Washington, D.C.: GPO, 1992), p. 1-31.

¹⁴ U.S. Department of Commerce, Bureau of the Census. 1987 Census of Manufactures. Industry Series: Drugs, Industries 2833, 2834, 2835, and 2836 (Washington, D.C.: GPO, 1990), p. 28C-18.

¹⁵ *Idem*, 1991 Annual Survey of Manufactures: Statistics for Industry Groups and Industries, p. 1-31.

subtracting from sector value of shipments the cost of materials, supplies, containers, fuel, purchased electricity, and contract work. "Value of Shipments," the sixth column in tables 1A and 1B, is the received or receivable net selling value of all products shipped.¹⁶

For tables 2A and 2B, the word "facilities" is used instead of "establishments" to avoid a larger column width. In table 2A, the sixth column, "Number of States Reporting," includes only the states having at least 150 employees in each industry group. In table 2B, the fourth column, "Number of States Reporting", includes only states having at least \$2 million dollars in product shipments. If a state has only one employer for all establishments in a product class, information for that state is omitted to avoid releasing individual company information.

¹⁶ Ibid, p. A-2.

TABLE 1A. NEW JERSEY CHEMICAL INDUSTRY STATISTICS - 1991

SIC CODE & INDUSTRY GROUP	NUMBER OF EMPLOYEES [a]	EMPLOYEE PAYROLL (MILLION \$\$) [a]	VALUE ADDED BY MANUFACTURE (MILLION \$\$) [a]	COST OF MATERIALS (MILLION \$\$) [a]	VALUE OF SHIPMENTS (MILLION \$\$) [a]	NEW CAPITAL EXPENDITURES (MILLION \$\$) [a]	END-OF-YEAR INVENTORIES (MILLION \$\$) [a]
28: Chemicals and Allied Products	71,900.0	2,756.5	15,296.6	9,486.9	24,635.7	844.4	3,231.0
281: Industrial Inorganic Chemicals	3,300.0	119.6	575.8	754.3	1,330.9	24.8	125.9
282: Plastics materials & Synthetics	3,500.0	132.1	388.9	681.5	1,079.1	62.5	132.0
283: Drugs	28,500.0	1,202.7	8,145.7	3,310.1	11,249.9	416.1	1,435.7
284: Soaps, cleaners, & toilet goods	16,500.0	514.8	3,442.1	1,705.8	5,172.4	76.9	628.7
285: Paints & Allied Products	(D)	(D)	(D)	(D)	(D)	(D)	(D)
286: Industrial Organic Chemicals	11,400.0	507.1	1,665.0	1,876.5	3,553.3	209.3	617.2
289: Miscellaneous chemical products	6,100.0	191.0	695.9	754.9	1,471.7	38.1	186.5

(D) = The data was withheld to avoid disclosing individual company data; data are included in higher level totals

[a]: U.S. Department of Commerce, Bureau of the Census: 1991 Annual Survey of Manufactures: Geographic Area Statistics (Washington, D.C.: GPO, 1993), p. 3-82.

TABLE 1B. NEW JERSEY CHEMICAL INDUSTRY STATISTICS - 1990

SIC CODE & INDUSTRY GROUP	NUMBER OF EMPLOYEES [a]	EMPLOYEE PAYROLL (MILLION \$\$) [a]	VALUE ADDED BY MANUFACTURE (MILLION \$\$) [a]	COST OF MATERIALS (MILLION \$\$) [a]	VALUE OF SHIPMENTS (MILLION \$\$) [a]	NEW CAPITAL EXPENDITURES (MILLION \$\$) [a]	END-OF-YEAR INVENTORIES (MILLION \$\$) [a]
28: Chemicals and Allied Products	74,200.0	2,771.1	14,418.6	9,589.3	23,531.8	955.8	3,075.7
281: Industrial Inorganic Chemicals	3,200.0	115.5	487.2	964.4	1,024.5	45.4	124.7
282: Plastics materials & Synthetics	3,800.0	136.2	459.0	739.7	1,207.1	68.8	144.9
283: Drugs	27,400.0	1,152.5	7,348.2	2,726.3	9,985.3	500.3	1,173.0
284: Soaps, cleaners, & toilet goods	18,500.0	546.1	3,260.9	1,697.5	4,977.1	82.0	641.7
285: Paints & Allied Products	(D)	(D)	(D)	(D)	(D)	(D)	(D)
286: Industrial Organic Chemicals	11,200.0	495.8	1,751.0	2,155.4	3,898.0	213.7	652.9
289: Miscellaneous chemical products	6,600.0	214.1	750.3	867.1	1,624.1	30.3	210.4

(D) = The data was withheld to avoid disclosing individual company data; data are included in higher level totals

[a]: U.S. Department of Commerce, Bureau of the Census. 1991 Annual Survey of Manufactures: Geographic Area Statistics (Washington, D.C.: GPO, 1993), p. 3-83.

TABLE 1C. UNITED STATES LABOR STATISTICS FOR 1991-1990

SIC CODE & INDUSTRY GROUP	1991		1990	
	NUMBER OF EMPLOYEES [b]	EMPLOYEE PAYROLL (MILLION \$\$) [b]	NUMBER OF EMPLOYEES [b]	EMPLOYEE PAYROLL (MILLION \$\$) [b]
28: Chemicals and Allied Products	846,400.0	31,001.6	853,300.0	30,081.6
281: Industrial Inorganic Chemicals	104,000.0	408,405.0	100,900.0	3,843.1
282: Plastics materials & Synthetics	139,400.0	4,889.0	131,600.0	4,802.3
283: Drugs	184,100.0	7,197.5	182,900.0	6,850.6
284: Soaps, cleaners, & toilet goods	122,900.0	3,749.9	126,100.0	3,682.6
285: Paints & Allied Products	51,100.0	1,568.2	53,900.0	1,627.6
286: Indu. Chemical.	127,000.0	5,428.7	125,800.0	5,167.1
289: Miscellaneous chemical products	87,000.0	2,678.4	89,200.0	2,643.1

[b]: U.S. Department of Commerce, Bureau of the Census. 1991 Annual Survey of Manufactures: Statistics for Industry Groups and Industries (Washington, D.C.: GPO, 1992), p. 1-31

H. MISCELLANEOUS CHEMICAL PRODUCTS (2891, 2892, 2893, 2895, 2899)		218**	84**	2879**	911**					
2891: Adhesives & Sealants	58 [k]	23 [k]	714 [k]	274 [k]	27 [k]	8.1%	#2 [k]	8.4%	#4 [k]	
2892: Explosives	4 [k]	2 [k]	132 [k]	45 [k]	18 [k]	3.0%	#12 [k]	4.4%	#7 [k]	
2893: Printing Ink	45 [k]	20 [k]	504 [k]	185 [k]	20 [k]	8.9%	#3 [k]	10.8%	#3 [k]	
2899: Chemical Preparations, Not Elsewhere Classified	111 [k]	39 [k]	1528 [k]	407 [k]	33 [k]	7.3%	#3 [k]	9.6%	#1 [k]	

** This figure may exceed the actual number of establishments within this SIC grouping. Some establishments may be included in multiple SIC categories due to the production of more than one product at each establishment.

[d]: U.S. Department of Commerce, Bureau of the Census. 1987 Census of Manufactures: Industry Series, Industrial Inorganic Chemicals (Washington, D.C.: GPO, 1990), pp. 28A-8, 28A-9.

[e]: U.S. Department of Commerce, Bureau of the Census. 1987 Census of Manufactures: Industry Series, Plastics Materials, Synthetic Rubbers, and Manmade Fibers (Washington, D.C.: GPO, 1990), pp. 28B-7.

[f]: U.S. Department of Commerce, Bureau of the Census. 1987 Census of Manufactures: Industry Series, Drugs (Washington, D.C.: GPO), pp. 28C-8.

[g]: U.S. Department of Commerce, Bureau of the Census. 1987 Census of Manufactures: Industry Series, Soap, Cleaners, and Toilet Goods (Washington, D.C.: GPO, 1990), pp. 28D-7, 28D-8.

[h]: U.S. Department of Commerce, Bureau of the Census. 1987 Census of Manufactures: Industry Series, Paints and Allied Products (Washington, D.C.: GPO, 1990), pp. 28E-5.

[i]: U.S. Department of Commerce, Bureau of the Census. 1987 Census of Manufactures: Industry Series, Industrial Organic Chemicals (Washington, D.C.: GPO, 1990), pp. 28F-8, 28F-9.

[j]: U.S. Department of Commerce, Bureau of the Census. 1987 Census of Manufactures: Industry Series, Agricultural Chemicals (Washington, D.C.: GPO), pp. 28G-7, 28G-8.

[k]: U.S. Department of Commerce, Bureau of the Census. 1987 Census of Manufactures: Industry Series, Miscellaneous Chemical Products (Washington, D.C.: GPO, 1990), pp. 28H-9, 28H-10.

SIC CODE AND PRODUCT GROUP	NEW JERSEY 1987 VALUE OF PRODUCT SHIPMENTS (million \$\$)	U.S. 1987 VALUE OF PRODUCT SHIPMENTS (million \$\$)	NUMBER OF STATES REPORTING	NJ'S % OF U.S. SHARE		NJ'S RANK OF ALL REPORTING STATES@@
				1987 VALUE OF PRODUCT SHIPMENTS	1987 VALUE OF PRODUCT SHIPMENTS	
A. INDUSTRIAL INORGANIC CHEMICALS (2812, 2813, 2816, 2819)						
28132: Acetylene	650.1**	10109.4**	6 [d]	6.4%		
28137: Other Industrial Gas, Not Elsewhere Classified	2.2 [d]	118.4 [d]	16 [d]	1.9%		
	10.8 [d]	704.3 [d]		1.5%		
28163: Chrome Colors & Other Inorganic Pigments	57.4 [d]	614.2 [d]	8 [d]	9.3%	#3 [d]	
28183: Sulfuric Acid	26.6 [d]	557.4 [d]	8 [d]	4.8%		
28196: Other Aluminum Compounds	21.4 [d]	411.4 [d]	12 [d]	5.2%	#4 [d]	
28197: Potassium & Sodium Compounds, Not Elsewhere classified	72.6 [d]	1407.5 [d]	17 [d]	5.2%	#7 [d]	
28198: Chemical Catalytic Preparations	27.7 [d]	1061.2 [d]	3 [d]	2.6%	last [d]	
28199: Other Inorganic Chemicals, Not Elsewhere Classified	431.4 [d]	5235.0 [d]	27 [d]	8.2%	#1 [d]	
B. PLASTICS MATERIALS, SYNTHETIC RUBBER, MANMADE FIBERS (2821, 2822, 2823, 2824)						
28213: Thermoplastics Resins & Plastics Materials	1162.4**	27210**		5.2%		
28214: Thermosetting Resins & Plastics Materials	887.4 [e]	22289.1 [e]	19 [e]	4.0%	#5 [e]	
	275 [e]	4910.9 [e]		5.6%	#5 [e]	
C. DRUGS (2833, 2834, 2835, 2836)	5946.6**	31681.6**		18.8%		
28331: Synthetic Organic Medicinal Chemicals, in Bulk	849.1 [f]	3648 [f]	6 [f]	23.3%	#1 [f]	
28333: Other Medicinal Chemicals & Botanical Products, in Bulk, Not Elsewhere Classified	100.7 [f]	370.5 [f]	4 [f]	27.2%	#1 [f]	
28341: Pharmaceutical Preparations Affecting Neoplasms, the Endocrine System, & Metabolic Diseases, for Human Use	284.4 [f]	1946.1 [f]	5 [f]	14.6%	#2 [f]	
28342: Pharmaceutical Preparations Acting on the Central Nervous System & the Sense Organs, for Human Use	1081.4 [f]	5654.4 [f]	9 [f]	19.1%	#2 [f]	
28343: Pharmaceutical Preparations Acting on Cardiovascular System, for Human Use	1100.3 [f]	3712.9 [f]	5 [f]	29.6%	#1 [f]	
28344: Pharmaceutical Preparations Acting on the Respiratory System, for Human Use	749.2 [f]	2738 [f]	7 [f]	27.4%	#1 [f]	

28345: Pharmaceutical Preparations Acting on the Digestive or the Genito-Urinary Systems, for Human Use	258.7 [l]	2874.6 [l]	10 [l]	9.0%	#2 [l]
28346: Pharmaceutical Preparations Acting on the Skin, for Human Use	229.3 [l]	1251.9 [l]	9 [l]	18.3%	#1 [l]
28347: Vitamin, Nutrient, & Hemating Preparations, for Human Use	298.9 [l]	2566 [l]	7 [l]	11.6%	#2 [l]
28348: Pharmaceutical Preparations Affecting Parasitic & Infective Diseases, for Human Use	623 [l]	4034.1 [l]	5 [l]	15.4%	#2 [l]
28349: Pharmaceutical Preparations, for Veterinary Use	208.4 [l]	994.6 [l]	8 [l]	21.0%	#1 [l]
28351: Diagnostic Substances, in Vitro	163.2 [l]	1900.5 [l]	7 [l]	8.6%	#4 [l]
D. SOAP, CLEANERS, & TOILET GOODS (2841, 2842, 2843, 2844)					
28411: Soap & Detergents, Nonhousehold	4254.6**	26765.4**		15.9%	#1 [g]
28412: Household Detergents	248.7 [g]	1790.9 [g]	18 [g]	13.9%	#4 [g]
28413: Soaps, Except Specialty Cleaners, Household	291.3 [g]	5248.6 [g]	8 [g]	5.6%	#1 [g]
28422: Household Bleaches	275.4 [g]	1423.3 [g]	4 [g]	19.3%	#1 [g]
28423: Specialty Cleaning & Sanitation Products	138.4 [g]	812.4 [g]	7 [g]	17.0%	#1 [g]
28424: Polishing Preparations & Related Products	344 [g]	2723.5 [g]	21 [g]	12.6%	#3 [g]
28441: Shaving Preparations	22.1 [g]	798 [g]	15 [g]	2.8%	#1 [g]
28442: Perfumes, Toilet water, & Colognes	185.8 [g]	480.7 [g]	1 [g]	38.7%	#1 [g]
28443: Hair Preparations (incl. shampoos)	742.3 [g]	1995.3 [g]	4 [g]	37.2%	#1 [g]
28444: Dentifrices, incl. Mouthwashes, Gargles, & Rinses	378 [g]	3602.1 [g]	10 [g]	10.5%	#3 [g]
28445: Other Cosmetics & Toilet Preparations	261.9 [g]	1401.5 [g]	2 [g]	18.7%	#1 [g]
	1368.7 [g]	6489.1 [g]	12 [g]	21.1%	#1 [g]
E. PAINTS & ALLIED PRODUCTS (2851)					
28511: Architectural Coatings	684.6**	11090.3**		6.2%	#5 [h]
28512: Product Finishes for Original Equipment Manufacturers	180.8 [h]	4173.7 [h]	23 [h]	4.6%	#8 [h]
28513: Special Purpose Coatings	136.3 [h]	3774.6 [h]	24 [h]	3.6%	#3 [h]
28515: Miscellaneous Allied Paint Products	186.9 [h]	2147.6 [h]	18 [h]	8.7%	#1 [h]
	170.8 [h]	984.4 [h]	18 [h]	17.2%	#1 [h]
F. INDUSTRIAL ORGANIC CHEMICALS (2861, 2865, 2869)					
28651: Cyclic Intermediates	2789.7**	37118.0**		7.5%	#1 [l]
28652: Synthetic Organic Dyes	263.2 [l]	7771.6 [l]	10 [l]	3.4%	#1 [l]
28653: Synthetic Organic Pigments, Lakes & Toners	235.2 [l]	858.7 [l]	3 [l]	27.4%	#1 [l]
28693: Synthetic Organic Chemicals, Not Elsewhere Classified	179.7 [l]	814.5 [l]	5 [l]	22.1%	#1 [l]
28695: Ethyl Alcohol & Other Industrial Organic Chemicals, Not Elsewhere Classified	577.6 [l]	2534.8 [l]	13 [l]	22.8%	#1 [l]
28696: Miscellaneous End-Use Chemicals & Chemical Products	202.9 [l]	2393.8 [l]	13 [l]	8.5%	#3 [l]
	605.6 [l]	3458.8 [l]	14 [l]	17.5%	#2 [l]

28697: Miscellaneous Cyclic & Acyclic Chemicals & Chemical Products	725.5 [i]	19287.8 [i]	22 [i]	3.8%	#4 [i]	
G. AGRICULTURAL CHEMICALS (2873, 2874, 2875, 2879)	3.5**	2644.1**		0.1%		
28786: Herbicidal Preparations Primarily for Agricultural, Garden & Health Service Use	3.5 [j]	2644.1 [j]	5 [j]	0.1 [j]	last [j]	
H. MISCELLANEOUS CHEMICAL PRODUCTS						
(2891, 2892, 2893, 2895, 2899)	915.1**	10752.3**		8.5%	#5 [k]	
28913: Natural base Glues & Adhesives	11.9 [k]	154.2 [k]	10 [k]	7.7%	#5 [k]	
28914: Synthetic Resin & Rubber Adhesives	157.5 [k]	2825.8 [k]	25 [k]	5.6%		
28917: Nonstructural Caulking Compounds & Sealants						
28931: Letterpress Inks	67 [k]	637.2 [k]	12 [k]	10.5%	#2 [k]	
28932: Lithographic & Offset Inks	14.7 [k]	164.1 [k]	7 [k]	9.0%	#4 [k]	
28933: Gravure Inks	58.9 [k]	987.3 [k]	22 [k]	6.0%	#5 [k]	
28934: Flexographic Inks	21.1 [k]	414.5 [k]	10 [k]	5.1%	#4 [k]	
28935: Printing Inks, Not Elsewhere Classified	67.4 [k]	424.8 [k]	19 [k]	15.9%	#2 [k]	
28985: Chemical Preparations, Not Elsewhere Classified	49 [k]	140.4 [k]	5 [k]	34.9%	#1 [k]	
TOTAL FOR SIC 28 ESTABLISHMENTS	467.6 [k]	5004 [k]	29 [k]	9.3%	#2 [k]	
	16406.6##	1543737##		10.6%		
<p>@@ Only SIC product categories where New Jersey had a significant ranking are shown.</p> <p>** This number is the total sum of the 1987 Value of Product Shipments for this category that was calculated from the Census data.</p> <p>## This number is the total sum of 1987 Value of Product Shipments for all categories.</p>						
<p>[d] U.S. Department of Commerce, Bureau of the Census, 1987 Census of Manufactures: Industry Series, Industrial Inorganic Chemicals (Washington, D.C.: GPO, 1990), pp. 28A-18, 28A-19.</p> <p>[e] U.S. Department of Commerce, Bureau of the Census, 1987 Census of Manufactures: Industry Series, Plastics Materials, Synthetic Rubbers, and Manmade Fibers (Washington, D.C.: GPO, 1990), pp. 28B-14.</p> <p>[f] U.S. Department of Commerce, Bureau of the Census, 1987 Census of Manufactures: Industry Series, Drugs (Washington, D.C.: GPO), pp. 28C-18.</p> <p>[g] U.S. Department of Commerce, Bureau of the Census, 1987 Census of Manufactures: Industry Series, Soap, Cleaners, and Toilet Goods (Washington, D.C.: GPO, 1990), p. 28D-17.</p> <p>[h] U.S. Department of Commerce, Bureau of the Census, 1987 Census of Manufactures: Industry Series, Paints and Allied Products (Washington, D.C.: GPO, 1990), pp. 28E-9, 28E-10.</p> <p>[i] U.S. Department of Commerce, Bureau of the Census, 1987 Census of Manufactures: Industry Series, Industrial Organic Chemicals (Washington, D.C.: GPO, 1990), pp. 28F-15, 28F-16.</p> <p>[j] U.S. Department of Commerce, Bureau of the Census, 1987 Census of Manufactures: Industry Series, Agricultural Chemicals (Washington, E.C.: GPO), pp. 28G-16.</p> <p>[k] U.S. Department of Commerce, Bureau of the Census, 1987 Census of Manufactures: Industry Series, Miscellaneous Chemical Products (Washington, D.C.: GPO, 1990), pp. 28H-18, 28H-19.</p>						

