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Industry Wage Survey: Drug Manufacturing, September 1978



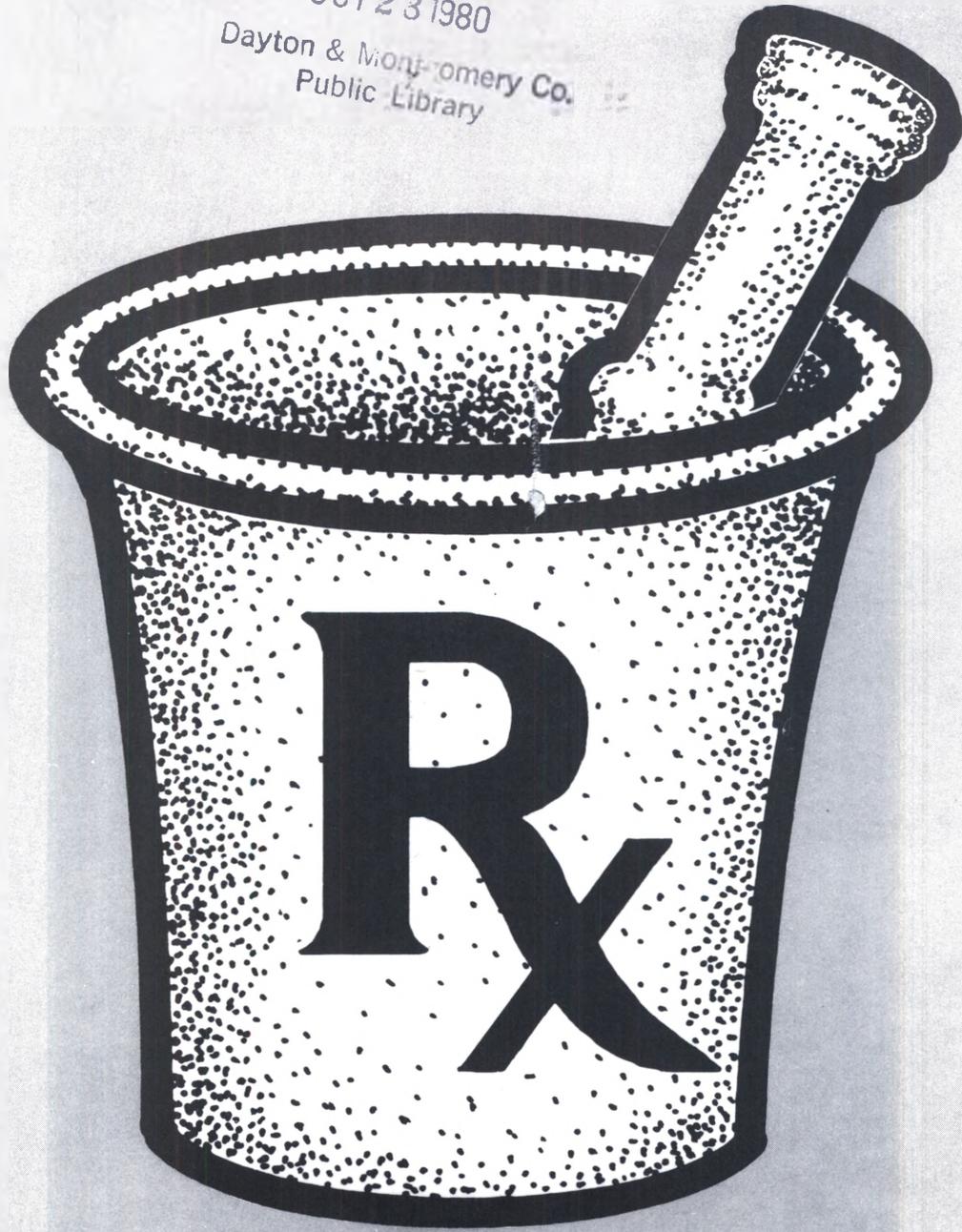
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Industry Wage Survey: Drug Manufacturing, September 1978



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Preface

This bulletin summarizes the results of an occupational wage survey in the drug manufacturing industries conducted for the first time by BLS in September 1978.

Releases were issued earlier for Los Angeles–Long Beach, Calif.; New York–Northeastern New Jersey; and the State of New Jersey. Copies are available from the U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C. 20212, or any of its regional offices.

The study was conducted in the Bureau's Office of Wages and Industrial Relations. Carl Barsky in the Di-

vision of Occupational Wage Structures prepared the analysis. Fieldwork for the survey was directed by the Assistant Regional Commissioners for Operations.

Other reports available from the Bureau's program of industry wage studies, as well as the addresses of the Bureau's regional offices, are listed at the end of this bulletin.

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Drug Manufacturing, September 1978

Summary

Straight-time earnings of production and related workers in drug manufacturing averaged \$5.81 an hour in September 1978. Slightly more than nine-tenths of the 54,332 production workers covered by the survey¹ earned between \$3.50 and \$8.50; the middle 50 percent earned between \$4.63 and \$6.92.

Among the four regions² for which data could be shown separately, earnings averaged \$6.42 in the Middle Atlantic, \$5.72 in the Middle West, \$5.07 in the Pacific, and \$4.78 in the Southeast. Pay levels also varied by community size, degree of unionization, and occupation.

Among the 21 production worker occupations studied separately, nationwide average hourly earnings ranged from \$8.14 for maintenance pipefitters to \$4.44 for production packagers performing both hand and machine packaging.³ Information developed for workers in four professional and technical categories showed that pay levels for biologists, chemists, and engineers ranged from about \$265 to \$650 a week for six levels of skill and responsibility within each job while those for three levels of science technicians fell between \$200 and \$300 weekly.

Virtually all of the production workers were in establishments providing paid holidays and paid vacations, and contributing at least part of the cost of various health, insurance, and retirement plans. Production workers typically received 10 to 12 holidays annually, and, depending on their years of service, between 2 and 5 weeks of paid vacation. Benefits for professional and technical workers were usually the same as for production workers in the same establishment, although some professionals received more liberal vacation benefits.

Industry characteristics

Drug manufacturing industries consist of three segments: 1) Biological products, such as diagnostic agents,

¹ See appendix A for scope and method of study. Survey coverage was reduced to 84 percent of the nationwide employment in these industries because of the unavailability of data from large establishments in the industry that could not be adequately represented by other establishments. Because these nonrespondents were centered in the Great Lakes region, which has about one-fourth of the industries' work force, data for the region could not be shown separately.

² For a definition of regions, see appendix A, table A-1, footnote 1.

³ See appendix B for occupational descriptions.

plasma, serums, and vaccines; 2) medicinal chemicals and botanical products, primarily in bulk form; and 3) pharmaceutical preparations. Pharmaceuticals are by far the largest of the three, accounting for more than four-fifths of the drug industries' work force.

Employment and staffing. Establishments within the scope of the study (those with at least 50 workers) employed about 125,000 workers in September 1978 (table A-1). About 44 percent of these, or slightly over 54,000, were production and related workers. Another 18,000 (14 percent) were professionals; and 7,000 (6 percent) were technical workers. The remainder were primarily office clerical employees or salesworkers.

Chemical industries in general and drug manufacturing in particular employ a relatively large proportion of nonproduction workers. Whereas nonproduction workers make up about one-fourth of total employment in the manufacturing sector, they account for somewhat over one-half of total employment in drugs. A large part of the nonproduction work force in drugs is engaged in quality control and research and development.

The Pharmaceutical Manufacturers Association (PMA) estimates that their members employed 24,000 workers in research and development activities and 10,000 full-time worker equivalents in quality control;⁴ more than half of those engaged in R&D were professionals, many with advanced degrees. Obviously, research and development is extremely important to drug companies because of industry competition and because Federal laws require that a new drug must be proven safe and effective before being put on the market. Similarly, Federal regulations mandate strict quality control measures.

Type of facility. Slightly more than one-half of the 284 establishments within the scope of the Bureau's survey had both manufacturing and research facilities at the same location. About two-fifths were plants without research facilities; the remainder were separate research laboratories.

⁴ *PMA Factbook '76* (Washington, D.C.: Pharmaceutical Manufacturers Association, 1976), pp. 8 and 26. Research and development expenditures account for about 10 percent of total sales revenue by PMA member firms. About 15 new single entity drugs are introduced into the U.S. market each year.

Major products. Establishments whose major products were pharmaceuticals employed 85 percent of the industries' production workers. Of the nearly 46,000 production workers in the pharmaceuticals industry, about three-fifths were in plants chiefly producing prescription, or ethical, drugs and two-fifths were in plants primarily making over-the-counter drugs. The remaining 15 percent of the drug manufacturing work force was split about evenly between establishments chiefly making biological products and those primarily producing medicinal chemicals and botanicals.

Productivity and production. Between 1963 and 1978, output per employee hour in pharmaceuticals rose at an average annual rate of 4.7 percent, compared with 2.0 percent in the private economy as a whole.⁵ The relatively sharp rise resulted from pharmaceutical output nearly tripling while employee hours rose by 50 percent. Contributing to productivity gains have been increased economies of scale and improvements in production and control technologies. The large increase in pharmaceutical production, according to PMA, relates to rapidly growing demand for these products, triggered, in part, by an increasing proportion of the elderly in the population, the increased availability of medical insurance, and the availability of new drugs to meet a wide variety of needs.

Processes. Although a wide variety of products are manufactured in the drug industries, the same general production methods apply to most substances. The procedures for producing a tablet illustrate these methods. Ingredients are mixed according to a predetermined formula in a unit tended by a chemical operator. After this initial processing, the ingredients are granulated to produce a powdery substance and compressed into tablet form. A coating may be added at this point to flavor or color the tablet or to control disintegration time.

The final step in the process is packaging, which involves wrapping individual tablets and/or placing a group of tablets in containers. Packagers account for about one-fifth of the production workers in the industry, primarily because this process is least adaptable to automation. Because of quality control measures and the industry's tendency to produce on a job order basis, products tend to be made in small batches. Thus, many workers are engaged in placing batch numbers in product containers or in packaging tasks that vary from batch to batch.

Location. The Middle Atlantic States accounted for nearly one-half of the production workers covered by the September 1978 survey. Among the remaining regions for which data could be published, the Southeast

⁵ *Productivity in Selected Industries, 1979 Edition*, Bulletin 2054 (Bureau of Labor Statistics, 1979). Data are not available for the other drug industries.

accounted for about one-sixth and the Middle West and Pacific regions each employed about 6 percent.

Metropolitan areas⁶ accounted for 86 percent of all workers and 78 percent of production workers, reflecting a somewhat greater tendency for plants to be in nonmetropolitan areas than for offices or research facilities. For example, only about one-third of the 45,000 workers in the New York-Northeastern New Jersey area were production workers. By contrast, in the Southeast, a primarily nonmetropolitan region, about two-thirds of the 14,000 employees were production workers.

Size of establishment. Establishments employing at least 500 workers accounted for two-thirds of the production workers in September 1978. Regionally, these larger establishments employed three-fourths of the production workers in the Middle Atlantic, seven-tenths in the Southeast, three-tenths in the Middle West, and one-fifth in the Pacific.

Unionization. One-third of the production workers were in establishments having union contracts covering a majority of these workers. Union contracts covered slightly more than one-half of the production workers in the Middle Atlantic and in the Middle West, in contrast to less than one-tenth each in the Southeast and Pacific regions. The International Chemical Workers Union and the Oil, Chemical and Atomic Workers Union (both AFL-CIO affiliates) were the largest in the industries.

Method of wage payment. Virtually all production workers were paid time rates in September 1978, usually under formal plans providing ranges of rates for specific occupations (table 16). The proportion of workers paid under these plans (three-fourths) was the highest among manufacturing industries studied by BLS. Rate-range plans accounted for between two-thirds and five-sixths of the workers in each of the regions shown separately. Most of the remaining workers were paid single rates for a given occupation.

Average hourly earnings

The 54,332 production workers within the scope of the study averaged \$5.81 an hour in September 1978 (table 1). About half of the workers were in the Middle Atlantic region, where the average was \$6.42. In the other regions permitting comparison, hourly pay levels were \$4.78 in the Southeast, \$5.72 in the Middle West, and \$5.07 in the Pacific.

⁶ Standard Metropolitan Statistical areas as defined by the U.S. Office of Management and Budget through February 1974. The New York-Northeastern N.J. area consists of the New York and Nassau-Suffolk areas, N.Y.; Newark, Jersey City, New Brunswick-Perth Amboy-Sayreville, Paterson-Clifton-Passaic, and Long Branch-Asbury Park, N.J.; and Stamford and Norwalk, Conn.

Workers in metropolitan areas and those covered by labor-management agreement enjoyed substantial pay advantages over their counterparts in nonunion firms and in smaller communities. Much of the nationwide differences observed in these comparisons stemmed from the disproportionate effect of the relatively high-paying Middle Atlantic region. That region accounted for three-fifths of all workers in metropolitan areas and three-fourths of the total in union establishments compared to less than one-tenth in nonmetropolitan areas and to one-third of the nonunion work force. The union-to-nonunion wage differential, for example, was 16 percent nationwide compared with 6 percent in the Middle Atlantic region. Similarly, the size of community differential was reduced from 24 percent to less than 1 percent.

Nationwide, and in each of the four regions studied separately, production workers in pharmaceutical plants averaged slightly less than those in drug manufacturing as a whole (\$5.75 compared with \$5.81).

Slightly more than nine-tenths of the production workers earned between \$3.50 and \$8.50 an hour; the middle 50 percent earned between \$4.63 and \$6.92 (table 2). This relatively high degree of dispersion reflects, in part, regional pay differences. As illustrated in text table 1, about seven-tenths of the workers in the Southeast region averaged less than \$5 an hour, compared with just over one-half in the Pacific, three-eighths in the Middle West, and only about one-eighth in the Middle Atlantic States. By contrast, one-third of the Middle Atlantic work force earned more than \$7 an hour, compared with about 3 percent in the Southeast. (Tables 2 and 3 provide full earnings distributions.)

Occupational earnings

Production workers. Earnings information was developed for 21 occupations selected to represent the wage structure and activities of production and related workers in drug manufacturing. These jobs accounted for half of the 54,332 production workers within the scope of the study. Nationwide, average hourly earnings in

Text table 1. Percent of production workers in drug manufacturing whose earnings fell within specified intervals, United States and selected regions, September 1978

Region	Under \$5	\$5 and under \$6	\$6 and under \$7	\$7 and over
United States ¹	33.8	21.7	21.6	22.8
Middle Atlantic	13.5	22.8	30.1	33.7
Southeast	71.9	15.4	9.9	2.7
Middle West	37.3	29.7	14.0	18.9
Pacific	53.6	24.6	12.3	9.3

¹ Includes data for regions in addition to those shown separately.

NOTE: Because of rounding, sums of individual items may not equal 100.

these categories ranged from \$8.14 for maintenance pipefitters to \$4.44 for production packagers performing both hand and machine tasks (table 4). The latter category was also the largest studied, accounting for nearly one-tenth of the production work force. Other numerically important occupational groups and their averages included machine packagers, \$5.27; hand packagers, \$4.97; janitors, \$5.54; class B chemical operators, \$5.92; and class A operators, \$7.19.

Pay levels were usually highest in the Middle Atlantic and lowest in the Southeast for occupational classifications permitting comparison across all four regions shown separately (text table 2). The interregional spread was 15 percent or less for the three skilled maintenance jobs but more than 30 percent for 5 of the 6 other jobs compared.

Occupational averages in pharmaceutical plants were generally about the same as those for drugs as a whole (table 5). Where differences occurred, they were always less than 5 percent.

Nationwide, occupational averages were generally higher in metropolitan than in nonmetropolitan areas (table 6) and in union than in nonunion establishments (table 7). However, there were some exceptions to these patterns. Nonunion workers in the Middle West, for example, usually had higher occupational averages than their union counterparts.

Earnings of individual workers varied widely even within limited geographic boundaries. These variations are illustrated by separate tabulations for Los Angeles-Long Beach, New York-Northeastern New Jersey, and the State of New Jersey (tables 8-10). Within any of these three locales, earnings of the highest paid worker in each job usually exceeded those of the lowest paid worker by more than \$2 an hour. These broad ranges of earnings primarily reflect widely varying pay levels among establishments.

Text table 2. Regional pay relationships for selected production occupations in drug manufacturing, September 1978

(United States average earnings for each occupation = 100)

Occupation	Middle Atlantic	South-east	Middle West	Pacific
Maintenance				
Electrician	101	90	95	93
Maintenance worker, general utility	102	97	96	100
Mechanic (machinery)	103	89	102	92
Processing				
Chemical operator, class B	112	80	97	95
Production packager	110	94	91	87
Custodial and material movement				
Janitor	107	75	88	83
Power-truck operator	112	84	106	96
Shipper	116	84	91	88
Receiver	108	82	113	80

Professional and technical workers. Earnings information also was developed for about 14,000 professional and technical workers in four general categories. These included about 2,900 biologists, 5,300 chemists, 1,300 engineers, and 4,700 science technicians. Together, the four categories accounted for just under three-fifths of the 25,000 professional and technical workers within the scope of the study. Average weekly earnings are presented in tables 11 and 12 for six levels⁷ each of biologists, chemists, and engineers and three levels of technicians. In September 1978, average weekly pay levels ranged from \$265 for entry level personnel to \$650 for highly experienced professional workers and from \$200 to \$300 for technicians.

Among the professional categories, averages were fairly similar for biologists and chemists but fell somewhat below averages for engineers at each level. At the entry level in the Middle Atlantic States, for example, biologists (I) and chemists (I) had weekly averages of \$300.50 and \$282, respectively, compared with \$356.50 for engineers (I).

Science technicians generally averaged less than the professionals. However, the top level technicians studied (III) averaged as much as or more than entry level biologists and chemists in most instances permitting comparisons.

The Middle Atlantic region was typically highest paying for professional job categories, although its pay advantage compared to the U.S. average for professionals rarely exceeded 5 percent. Limited comparisons for the Southeast, Middle West, and Pacific showed that professional averages in these instances were usually 5 to 10 percent below U.S. levels. For science technicians, the Middle West was highest paying for the two lower levels and the Middle Atlantic, for the top level. (See text table 3.)

As with production workers, earnings of individual professional and technical workers varied widely by area (tables 14-16) and contributed to a substantial overlapping of salaries for occupations with significantly different pay levels. Text table 4 shows such an overlapping for level II chemists and science technicians, despite nearly a \$100 per week difference between their average earnings.

Establishment practices and supplementary wage provisions

Data also were collected for production workers on certain establishment practices, including work schedules, shift differential policies, and supplementary wage

⁷Excluded are workers at higher levels who make decisions and recommendations that are recognized as authoritative and have an important impact on extensive company activities, such as fostering technological breakthroughs and advances. Also excluded are executive and administrative officers.

Text table 3. Regional pay relationships for selected professional and technical occupations in drug manufacturing, September 1978

(United States average earnings for each occupational classification = 100)

Occupational classification	Middle Atlantic	South-east	Middle West	Pacific
Biologists I	107	-	-	92
Biologists II	105	-	81	94
Biologists III	106	-	90	95
Biologists IV	102	-	96	96
Biologists V	103	-	-	92
Biologists VI	100	-	-	-
Chemists I	105	-	94	-
Chemists II	103	90	91	94
Chemists III	104	89	94	95
Chemists IV	102	92	100	94
Chemists V	100	104	104	93
Chemists VI	100	-	-	-
Engineers I	105	-	-	-
Engineers II	104	89	-	-
Engineers III	102	101	-	-
Engineers IV	100	101	88	93
Engineers V	97	-	-	-
Engineers VI	100	-	-	-
Science technicians I	101	98	104	90
Science technicians II	100	90	107	81
Science technicians III	104	88	97	79

NOTE: Dashes indicate no data.

Text table 4. Earnings of level II chemists and science technicians, New York-Northeastern New Jersey, September 1978

Weekly earnings	Chemists II	Science technicians II
Under \$200	-	171
\$200 and under \$240	10	144
\$240 and under \$280	95	175
\$280 and under \$320	194	102
\$320 and under \$360	154	2
\$360 and over	171	-
Number of workers	624	594
Average weekly earnings	\$327.50	\$235.50

NOTE: Dashes indicate no data.

provisions, including paid holidays, paid vacations, and health, insurance, and retirement plans. In addition, the benefits for professional and technical workers in each establishment were compared with production workers' benefits.

Scheduled weekly hours. Slightly more than nine-tenths of the production workers were in plants scheduling a majority of their day-shift employees for 40 hours per week (table 17). Shorter schedules, but not less than 37.5 hours, applied to the remaining workers.

Shift differential provisions and practices. Slightly more than nine-tenths of the production workers were in establishments with provisions for second (evening) shifts

and about five-sixths in those with provisions for third shifts (table 18). At the time of the survey, however, only about one-fifth of the production workers actually were employed on second shifts, and 6 percent were on third shifts (table 19). Nearly all late-shift workers received differentials, typically as uniform cents-per-hour premiums above day-shift rates. Premiums varied considerably, but the most common were 15, 20, and 28 cents for second shifts and 25, 30, and 44 cents for third shifts.

Paid holidays. All establishments visited provided paid holidays (table 20). Typical provisions were for 10 to 12 days annually in the Middle Atlantic and Middle West, 9 or 10 days in the Southeast, and 10 or 11 days in the Pacific States.

Paid vacations. All establishments visited provided paid vacations to production workers after qualifying periods of service (table 21). The most common provisions were 2 weeks' pay after 1 year of service, 3 weeks' after 5 years, 4 weeks' after 15 years (for one-third of the workers, after 12 years), and 5 weeks' after 25 years (for two-fifths, after 20 years). Three-tenths of the workers were eligible for 6 weeks after 30 years.

Health, insurance, and retirement plans. Virtually all production workers were in establishments paying at least part of the cost of life, hospitalization, surgical, and medical insurance; typically the plans were entirely financed by the employer (table 23). Slightly over nine-tenths were covered by major medical plans and were protected from temporary loss of income due to illness or accident by pay continuation plans. Both sickness and accident insurance and sick leave plans were prevalent—the latter covering a relatively large pro-

portion of the production work force for a manufacturing industry. Accidental death and dismemberment insurance applied to five-sixths of the workers and long-term disability and/or dental insurance, to just over one-half.

Retirement pension plans, in addition to Federal social security, covered about nine-tenths of the production workers. These plans were generally wholly financed by employers. Lump-sum severance pay applied to some of these workers as well, limited mainly to the Middle Atlantic region (one-tenth).

Other selected benefits. Virtually all production workers were provided funeral and jury-duty leave (table 24). Technological severance pay for workers separated from their jobs because of technological changes, applied to one-fourth of the workers. Cost-of-living adjustments (COLA), in most cases based on the BLS Consumer Price Index, were found in establishments employing one-fifth of the workers. No region studied separately had as many as two-fifths of their production workers covered by technological severance pay or COLA.

Benefits of professional and technical workers. Professional and technical workers typically were eligible for the same holiday, vacation, life insurance, hospitalization insurance, and pension plans as production workers in the same establishment (table 24). In some instances, however, professional or technical workers enjoyed more liberal benefits than production workers. For example, establishments employing one-third of the professional and one-fifth of the technical workers in the Middle Atlantic region had provisions for more liberal vacations for these workers.

Table 1. Average hourly earnings of production workers by selected characteristics

(Number of workers and average straight-time hourly earnings,¹ drug manufacturing, United States and selected regions,² September 1978)

Item	United States ²		Middle Atlantic		Southeast		Middle West		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
All productions workers	54,332	\$5.81	26,228	\$6.42	9,577	\$4.78	3,421	\$5.72	3,593	\$5.07
Size of community:										
Metropolitan areas	42,274	6.07	25,304	6.42	2,067	5.23	2,897	6.04	3,464	5.11
Nonmetropolitan areas	12,058	4.89	924	6.40	7,510	4.66	-	-	-	-
Labor-management contract coverage:										
Establishments with—										
Majority of workers covered	18,657	6.39	13,820	6.58	-	-	1,862	5.87	-	-
None or minority of workers covered	35,675	5.51	12,408	6.23	8,919	4.75	1,559	5.54	3,471	\$5.02
Primary product:										
Pharmaceuticals	45,946	5.75	22,290	6.36	9,042	4.77	2,251	5.25	3,102	5.00

¹ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

² Includes data for regions in addition to those shown separately. For definition of

regions, see appendix A, table A-1, footnote 2.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Table 2. Earnings distribution: All establishments

(Percent of production workers by straight-time hourly earnings,¹ United States and selected regions, September 1978)

Hourly earnings	United States ²	Middle Atlantic	Southeast	Middle West	Pacific	Hourly earnings	United States ²	Middle Atlantic	Southeast	Middle West	Pacific
Number of workers	54,332	26,228	9,577	3,421	3,593	\$5.80 and under \$5.90	3.0	4.4	0.1	1.1	2.4
Average hourly earnings ¹	\$5.81	\$6.42	\$4.78	\$5.72	\$5.07	\$5.90 and under \$6.00	2.6	2.2	.1	.9	1.8
Total	100.0	100.0	100.0	100.0	100.0	\$6.00 and under \$6.10	2.2	3.5	1.0	1.3	2.4
Under \$3.50	4.0	2.7	1.3	7.3	9.5	\$6.10 and under \$6.20	3.5	3.8	2.3	1.9	1.5
\$3.50 and under \$3.60 .....	.8	.7	.4	.7	2.1	\$6.20 and under \$6.30	2.0	2.7	1.4	2.5	1.2
\$3.60 and under \$3.70 .....	.7	.8	.2	.1	1.1	\$6.30 and under \$6.40	1.3	2.0	1.0	.3	.5
\$3.70 and under \$3.80	1.1	.5	.7	.6	2.6	\$6.40 and under \$6.50	2.8	4.4	1.0	.7	1.6
\$3.80 and under \$3.90	1.4	.3	1.6	.6	1.3	\$6.50 and under \$6.60	2.7	3.5	.2	1.3	1.3
\$3.90 and under \$4.00	2.5	.2	7.0	1.1	5.7	\$6.60 and under \$6.70	2.0	3.4	.6	.6	1.2
\$4.00 and under \$4.10	2.8	.8	9.6	2.5	2.7	\$6.70 and under \$6.80	1.3	2.0	.5	.8	.4
\$4.10 and under \$4.20	2.7	.3	8.7	3.3	2.4	\$6.80 and under \$6.90	1.9	1.8	-	2.3	.9
\$4.20 and under \$4.30	3.5	.5	12.0	2.2	3.5	\$6.90 and under \$7.00	1.9	3.0	1.9	.3	1.3
\$4.30 and under \$4.40	1.3	.6	1.4	1.2	2.6	\$7.00 and under \$7.10	2.0	3.3	(³)	.1	.3
\$4.40 and under \$4.50	1.6	.4	3.6	1.9	4.1	\$7.10 and under \$7.20	1.8	1.9	.1	6.6	.8
\$4.50 and under \$4.60	2.2	.4	6.9	1.1	3.6	\$7.20 and under \$7.30	1.5	2.7	.1	1.7	.6
\$4.60 and under \$4.70	2.4	2.2	4.0	1.4	2.5	\$7.30 and under \$7.40	2.1	1.8	.4	14.2	1.7
\$4.70 and under \$4.80	2.0	.6	4.9	.9	4.8	\$7.40 and under \$7.50	1.5	2.7	.3	.7	.3
\$4.80 and under \$4.90	1.8	1.1	1.6	5.5	3.0	\$7.50 and under \$7.60 .....	.8	1.3	.1	.9	.3
\$4.90 and under \$5.00	2.7	1.4	8.0	1.8	2.1	\$7.60 and under \$7.70	2.9	4.2	-	1.3	.4
\$5.00 and under \$5.10	1.4	.7	2.3	3.4	1.7	\$7.70 and under \$7.80	1.3	1.9	1.1	.3	.5
\$5.10 and under \$5.20	1.6	1.0	3.8	1.6	2.5	\$7.80 and under \$7.90	1.5	1.2	.1	(³)	.3
\$5.20 and under \$5.30	1.7	1.1	1.7	2.3	3.2	\$7.90 and under \$8.00 .....	.4	.4	-	1.7	.6
\$5.30 and under \$5.40	1.9	3.0	.5	1.9	1.1	\$8.00 and under \$8.10	1.0	1.5	(³)	.4	.3
\$5.40 and under \$5.50	2.0	2.3	1.6	2.7	2.9	\$8.10 and under \$8.20 .....	.7	1.3	-	.1	.3
\$5.50 and under \$5.60	2.7	1.8	3.4	8.5	4.1	\$8.20 and under \$8.30	1.7	2.4	-	1.3	1.4
\$5.60 and under \$5.70	2.7	4.1	1.4	1.0	2.6	\$8.30 and under \$8.40 .....	.3	.4	.3	-	.5
\$5.70 and under \$5.80	2.1	2.2	.5	2.2	2.3	\$8.40 and under \$8.50 .....	.8	1.6	-	-	.1
						\$8.50 and over	3.1	5.1	.2	.6	1.0

¹ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

² Includes data for regions in addition to those shown separately.

³ Less than 0.05 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 3. Earnings distribution: Pharmaceuticals

(Percent of production workers by straight-time hourly earnings,¹ United States and selected regions, September 1978)

Hourly earnings	United States ²	Middle Atlantic	Southeast	Middle West	Pacific	Hourly earnings	United States ²	Middle Atlantic	Southeast	Middle West	Pacific
Number of workers	45,946	22,290	9,042	2,251	3,102	\$5.80 and under \$5.90	3.3	5.0	0.1	0.7	2.7
Average hourly earnings ¹	\$5.75	\$6.36	\$4.77	\$5.25	\$5.00	\$5.90 and under \$6.00	2.7	2.2	.2	1.4	1.0
Total	100.0	100.0	100.0	100.0	100.0	\$6.00 and under \$6.10	2.2	3.6	.6	1.7	2.4
Under \$3.50	3.7	3.1	.8	9.2	10.1	\$6.10 and under \$6.20	3.9	4.2	2.4	1.9	1.7
\$3.50 and under \$3.60 .....	.8	.8	.2	.8	1.8	\$6.20 and under \$6.30	2.0	2.6	1.5	3.8	1.1
\$3.60 and under \$3.70 .....	.8	.9	.1	(*)	1.2	\$6.30 and under \$6.40	1.1	1.7	1.1	.3	.5
\$3.70 and under \$3.80	1.2	.6	.7	.4	2.4	\$6.40 and under \$6.50	2.8	4.4	1.0	1.0	1.3
\$3.80 and under \$3.90	1.5	.3	1.7	.8	1.4	\$6.50 and under \$6.60	2.8	3.7	.2	1.7	1.5
\$3.90 and under \$4.00	2.9	.3	7.4	1.5	6.6	\$6.60 and under \$6.70	2.1	3.7	.6	.8	1.4
\$4.00 and under \$4.10	3.1	1.0	10.1	3.6	2.9	\$6.70 and under \$6.80	1.3	2.0	.5	.4	.3
\$4.10 and under \$4.20	2.4	.2	9.2	4.1	2.4	\$6.80 and under \$6.90	2.0	1.7	-	3.4	.8
\$4.20 and under \$4.30	4.0	.6	12.6	3.1	3.8	\$6.90 and under \$7.00	1.8	2.6	2.0	.5	1.5
\$4.30 and under \$4.40	1.5	.7	1.5	1.6	2.7	\$7.00 and under \$7.10	2.1	3.5	(*)	.1	.3
\$4.40 and under \$4.50	1.7	.3	3.8	2.4	4.4	\$7.10 and under \$7.20	1.6	2.0	.1	2.3	.8
\$4.50 and under \$4.60	2.5	.4	7.3	1.4	3.4	\$7.20 and under \$7.30	1.1	2.1	.1	.5	.7
\$4.60 and under \$4.70	2.0	1.2	4.2	2.0	2.7	\$7.30 and under \$7.40	1.1	1.6	.5	1.0	.7
\$4.70 and under \$4.80	2.0	.4	5.1	.8	5.4	\$7.40 and under \$7.50	1.5	2.7	.3	.2	.4
\$4.80 and under \$4.90	1.9	1.3	1.6	8.3	2.2	\$7.50 and under \$7.60 .....	.6	.7	.1	1.4	.3
\$4.90 and under \$5.00	2.8	1.4	8.1	2.8	2.3	\$7.60 and under \$7.70	2.8	4.2	-	.5	.5
\$5.00 and under \$5.10	1.3	.8	1.8	3.4	1.8	\$7.70 and under \$7.80	1.4	2.0	1.1	.2	.6
\$5.10 and under \$5.20	1.6	.9	3.9	2.2	2.3	\$7.80 and under \$7.90	1.1	.9	.1	(*)	.2
\$5.20 and under \$5.30	1.5	1.2	.7	3.2	3.5	\$7.90 and under \$8.00 .....	.3	.5	-	.4	(*)
\$5.30 and under \$5.40	2.1	3.5	.4	2.3	1.2	\$8.00 and under \$8.10	1.0	1.6	(*)	.6	.3
\$5.40 and under \$5.50	1.9	2.3	1.5	3.1	2.8	\$8.10 and under \$8.20 .....	.5	1.0	-	.1	.3
\$5.50 and under \$5.60	2.9	2.1	3.5	12.0	3.1	\$8.20 and under \$8.30	1.9	2.7	-	1.9	1.6
\$5.60 and under \$5.70	2.8	4.6	.3	1.0	3.0	\$8.30 and under \$8.40 .....	.2	.3	.3	-	.2
\$5.70 and under \$5.80	2.2	2.2	.5	2.3	2.6	\$8.40 and under \$8.50 .....	.8	1.6	-	-	.1
						\$8.50 and over	2.8	4.4	.3	.9	.9

¹ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

² Includes data for regions in addition to those shown separately.

³ Workers were distributed as follows: 4.4 percent under \$3; 1.6 percent at \$3 to \$3.10; 0.5 percent at \$3.10 to \$3.20; 1.4 percent at \$3.20 to \$3.30; 1.0 percent at \$3.30 to \$3.40; and 1.2 percent at \$3.40 to \$3.50.

⁴ Less than 0.05 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 4. Occupational averages: Production workers—all establishments

(Number of workers and average straight-time hourly earnings,¹ in selected occupations, drug manufacturing, United States and selected regions, September 1978)

Department and occupation	United States ²		Middle Atlantic		Southeast		Middle West		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Maintenance										
Electricians	503	\$8.08	325	\$8.20	24	\$7.31	43	\$7.69	13	\$7.50
Maintenance workers, general utility	920	6.58	283	6.71	287	6.37	98	6.29	36	6.59
Mechanics (machinery)	1,233	7.41	546	7.62	202	6.61	125	7.58	102	6.79
Pipefitters	513	8.14	424	8.21	14	7.16	-	-	-	-
Processing										
Ampule-filling, sealing, or washing-machine operators	1,832	5.16	1,115	5.62	-	-	-	-	131	4.64
Chemical operators, class A	2,616	7.19	1,246	7.61	202	5.92	-	-	144	6.43
Chemical operators, class B	2,839	5.92	1,264	6.64	883	4.72	231	5.75	196	5.64
Chemical operators' helpers	383	5.52	130	6.67	-	-	73	5.42	18	5.35
Coaters	384	6.31	226	6.55	-	-	-	-	39	6.05
Compressors	607	6.21	338	6.60	-	-	38	6.07	97	5.37
Encapsulating-machine operators	290	5.33	151	5.89	-	-	-	-	24	3.93
Granulating-machine operators	574	6.21	309	7.10	-	-	29	4.44	61	4.82
Molders, machine	119	5.46	-	-	-	-	-	-	-	-
Production packagers	10,076	4.86	4,090	5.36	1,020	4.55	718	4.40	1,031	4.21
Hand	2,799	4.97	1,145	5.62	307	4.28	-	-	419	4.30
Machine	3,323	5.27	1,708	5.60	-	-	349	4.39	274	4.61
Hand and machine	3,954	4.44	1,237	4.77	-	-	157	4.48	338	3.76
Custodial and material movement										
Janitors	2,749	5.54	1,754	5.94	296	4.18	159	4.88	115	4.58
Power-truck operators	773	6.06	267	6.81	206	5.10	97	6.43	34	5.80
Shippers and receivers	825	5.60	242	6.39	160	5.00	67	5.44	-	-
Shippers	255	5.48	78	6.36	50	4.60	33	4.96	17	4.83
Receivers	194	6.09	102	6.59	35	4.97	6	6.87	10	4.86
Shippers and receivers	376	5.42	62	6.10	-	-	28	5.70	-	-

¹ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

² Includes data for regions in addition to those shown separately.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Table 5. Occupational averages: Production workers—pharmaceuticals(Number of workers and average straight-time hourly earnings,¹ in selected occupations, United States and selected regions, September 1978)

Department and occupation	United States ²		Middle Atlantic		Southeast		Middle West		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Maintenance										
Electricians	396	\$8.02	253	\$8.10	24	\$7.31	28	\$7.56	9	\$7.51
Maintenance workers, general utility	657	6.68	184	6.62	209	6.63	78	6.24	33	6.57
Mechanics (machinery)	1,073	7.40	454	7.69	202	6.61	112	7.54	88	6.69
Pipefitters	377	7.94	316	7.98	14	7.16	-	-	-	-
Processing										
Ampule-filling, -sealing, or washing-machine operators	1,453	5.25	908	5.65	-	-	-	-	-	-
Chemical operators, class A	1,606	7.21	851	7.77	202	5.92	85	6.60	-	-
Chemical operators, class B	1,887	5.66	792	6.40	-	-	191	5.92	153	5.63
Chemical operators' helpers	260	5.74	103	6.63	-	-	45	5.84	17	5.46
Coaters	384	6.31	226	6.55	-	-	-	-	39	6.05
Compressors	606	6.21	337	6.60	-	-	38	6.07	97	5.37
Encapsulating-machine operators	285	5.36	151	5.89	-	-	-	-	19	3.98
Granulating-machine operators	573	6.21	309	7.10	-	-	29	4.44	60	4.83
Molders, machine	119	5.46	-	-	-	-	-	-	-	-
Production packagers	9,592	4.86	3,935	5.33	1,018	4.55	641	4.40	1,013	4.21
Hand	2,706	5.00	1,145	5.62	305	4.28	-	-	419	4.30
Machine	3,212	5.28	1,668	5.59	-	-	344	4.37	265	4.60
Hand and machine	3,674	4.40	1,122	4.63	-	-	98	4.52	-	-
Custodial and material movement										
Janitors	2,337	5.44	1,457	5.85	279	4.13	116	4.65	108	4.60
Power-truck operators	616	5.99	204	6.87	194	5.08	57	5.87	34	5.80
Shippers and receivers	713	5.55	201	6.39	158	5.00	47	5.04	-	-
Shippers	218	5.51	63	6.72	50	4.60	-	-	12	5.09
Receivers	169	6.09	92	6.53	35	4.97	6	6.87	7	4.95
Shippers and receivers	326	5.30	46	5.66	-	-	17	5.65	-	-

¹ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.² Includes data for regions in addition to those shown separately.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Table 6. Occupational averages: Production workers by size of community—all establishments

(Number of workers and average straight-time hourly earnings,¹ in selected occupations, drug manufacturing, United States and selected regions, September 1978)

Department and occupation	United States ²				Middle Atlantic		Southeast				Middle West		Pacific	
	Metropolitan areas		Nonmetropolitan areas		Metropolitan areas		Metropolitan areas		Nonmetropolitan areas		Metropolitan areas		Metropolitan areas	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Maintenance														
Electricians	443	\$8.13	60	\$7.68	309	\$8.20	-	-	20	\$7.12	37	\$7.78	13	\$7.50
Maintenance workers, general utility	559	6.58	361	6.58	257	6.69	49	\$6.30	238	6.39	79	6.47	33	6.58
Mechanics (machinery)	1,021	7.56	212	6.68	539	7.62	59	7.11	143	6.40	113	7.61	99	6.82
Pipefitters	469	8.15	44	8.04	398	8.18	-	-	-	-	-	-	-	-
Processing														
Ampule-filling, -sealing, or washing-machine operators	1,357	5.38	475	4.53	1,115	5.62	-	-	-	-	-	-	131	4.64
Chemical operators, class A	2,096	7.19	520	7.18	1,223	7.62	-	-	-	-	-	-	144	6.43
Chemical operators, class B	1,702	6.22	1,137	5.46	1,037	6.49	75	4.81	-	-	227	5.78	196	5.64
Chemical operators' helpers	274	5.81	109	4.81	122	6.69	-	-	-	-	73	5.42	18	5.35
Coaters	339	6.42	45	5.44	226	6.55	-	-	-	-	-	-	34	6.01
Compressors	505	6.36	102	5.46	330	6.59	-	-	-	-	34	6.48	83	5.55
Encapsulating-machine operators	241	5.45	49	4.75	151	5.89	-	-	-	-	-	-	22	3.96
Granulating-machine operators	503	6.38	71	5.03	309	7.10	-	-	-	-	13	5.94	55	4.92
Molders, machine	58	6.92	-	-	-	-	-	-	-	-	-	-	-	-
Production packagers	7,575	5.01	2,501	4.42	3,750	5.33	381	4.44	639	4.61	434	4.94	999	4.24
Hand	2,267	5.05	532	4.62	988	5.65	-	-	-	-	74	4.79	417	4.31
Machine	2,987	5.37	336	4.42	1,549	5.58	-	-	-	-	203	5.36	269	4.63
Hand and machine	2,321	4.51	1,633	4.35	1,213	4.75	-	-	-	-	157	4.48	-	-
Custodial and material movement														
Janitors	2,368	5.70	381	4.55	1,713	5.94	-	-	-	-	141	4.96	113	4.61
Power-truck operators	570	6.41	203	5.07	245	6.83	-	-	154	4.77	97	6.43	34	5.80
Shippers and receivers	581	5.76	244	5.20	238	6.39	53	4.60	107	5.20	51	6.19	-	-
Shippers	185	5.65	70	5.02	78	6.36	-	-	22	5.15	17	6.77	17	4.83
Receivers	153	6.17	41	5.80	100	6.59	-	-	-	-	6	6.87	10	4.86
Shippers and receivers	243	5.59	133	5.11	60	6.10	-	-	-	-	28	5.70	-	-

¹ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

² Includes data for regions in addition to those shown separately.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Table 7. Occupational averages: Production workers by labor-management contract coverage—all establishments

(Number of workers and average straight-time hourly earnings,¹ in selected occupations, drug manufacturing, United States and selected regions, September 1978)

Department and occupation	United States ²				Middle Atlantic				Southeast		Middle West				Pacific	
	Establishments with—															
	Majority of workers covered		None or minority of workers covered		Majority of workers covered		None or minority of workers covered		None or minority of workers covered		Majority of workers covered		None or minority of workers covered		None or minority of workers covered	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Maintenance																
Electricians	256	\$8.22	247	\$7.94	216	\$8.32	109	\$7.97	24	\$7.31	-	-	25	\$7.72	13	\$7.50
Maintenance workers, general utility	340	6.34	580	6.72	141	6.51	142	6.91	189	6.66	44	\$5.34	54	7.05	34	6.60
Mechanics (machinery)	471	7.60	762	7.30	357	7.72	189	7.43	202	6.61	26	7.13	99	7.70	102	6.79
Pipefitters	347	8.21	166	7.99	308	8.29	116	7.98	14	7.16	-	-	-	-	-	-
Processing																
Ampute-filling, sealing, or washing-machine operators	485	5.35	1,347	5.09	439	5.57	676	5.65	-	-	-	-	-	-	131	4.64
Chemical operators, class A	1,164	7.40	1,452	7.02	528	7.39	-	-	196	5.92	-	-	83	6.75	140	6.38
Chemical operators, class B	1,292	6.51	1,547	5.42	763	6.89	501	6.26	-	-	-	-	96	6.12	176	5.60
Chemical operators' helpers	104	5.62	279	5.49	43	7.20	87	6.41	-	-	44	4.89	29	6.24	18	5.35
Coaters	185	5.99	199	6.60	146	6.00	80	7.57	-	-	-	-	-	-	35	5.99
Compressors	239	6.04	368	6.32	207	6.22	131	7.20	-	-	-	-	34	6.48	89	5.31
Encapsulating-machine operators	150	5.15	140	5.52	81	5.57	70	6.26	-	-	-	-	-	-	24	3.93
Granulating-machine operators	273	6.14	301	6.27	189	6.92	120	7.38	-	-	-	-	-	-	61	4.82
Molders, machine	20	6.28	99	5.30	-	-	-	-	-	-	-	-	-	-	-	-
Production packagers	2,457	5.15	7,619	4.77	1,640	5.46	2,450	5.29	1,020	4.55	218	3.57	500	4.76	1,003	4.19
Hand	697	5.85	2,102	4.68	577	6.06	568	5.18	307	4.28	-	-	-	-	397	4.28
Machine	1,084	4.96	2,239	5.42	602	5.34	1,106	5.74	-	-	-	-	214	5.29	268	4.61
Hand and machine	676	4.72	3,278	4.39	461	4.85	776	4.72	-	-	52	3.88	105	4.77	338	3.76
Custodial and material movement																
Janitors	1,166	6.15	1,583	5.09	974	6.26	780	5.54	279	4.12	50	5.29	109	4.69	113	4.57
Power-truck operators	269	6.55	504	5.79	136	7.07	131	6.53	186	5.07	-	-	34	6.38	32	5.64
Shippers and receivers	223	5.91	602	5.48	118	6.48	124	6.31	158	4.99	46	4.92	21	6.59	-	-
Shippers	62	5.53	193	5.46	13	6.87	65	6.26	50	4.60	28	4.59	-	-	13	4.63
Receivers	75	6.64	119	5.74	58	6.77	44	6.36	33	4.95	-	-	-	-	8	4.70
Shippers and receivers	86	5.54	290	5.39	47	6.02	15	6.37	-	-	17	5.44	11	6.10	-	-

¹ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

² Includes data for regions in addition to those shown separately.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Table 8. Occupational earnings: Production workers—Los Angeles-Long Beach, Calif.¹

(Number of workers and average straight-time hourly earnings² in selected occupations in drug manufacturing, September 1978)

Department and occupation	Number of workers	Average hourly earnings	Number of workers receiving straight-time hourly earnings of—																								
			Under \$2.70	\$2.70-\$2.80	\$2.80-\$3.00	\$3.00-\$3.20	\$3.20-\$3.40	\$3.40-\$3.60	\$3.60-\$3.80	\$3.80-\$4.00	\$4.00-\$4.20	\$4.20-\$4.40	\$4.40-\$4.60	\$4.60-\$4.80	\$4.80-\$5.00	\$5.00-\$5.20	\$5.20-\$5.40	\$5.40-\$5.60	\$5.60-\$5.80	\$5.80-\$6.00	\$6.00-\$6.20	\$6.20-\$6.40	\$6.40-\$6.80	\$6.80-\$7.20	\$7.20-\$7.60	\$7.60-\$8.00	\$8.00 and over
All production workers	1,717	\$5.15	19	8	75	48	58	68	72	59	73	58	102	73	105	86	71	134	49	85	109	25	119	66	64	44	47
Selected occupations																											
Maintenance																											
Electricians	7	7.49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	1	-	3
Maintenance workers, general utility	22	7.12	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	1	-	5	3	4	3	4
Mechanics (machinery)	19	7.02	-	-	-	-	-	-	-	-	-	-	-	-	3	-	1	-	-	1	-	3	2	2	-	3	7
Processing																											
Ampule-filling, -sealing, or washing-machine operators	62	4.52	-	-	-	6	6	5	3	1	3	1	2	6	4	4	5	14	1	-	1	-	-	-	-	-	-
Chemical operators, class A	130	6.30	-	-	-	-	-	-	-	-	-	-	-	-	1	8	7	19	9	18	14	3	3	12	30	6	-
Chemical operators, class B	130	5.48	-	-	-	-	-	6	-	10	1	3	1	1	5	3	7	33	9	14	22	-	11	2	2	-	-
Coaters	19	6.21	-	-	-	-	-	-	-	-	-	-	1	-	2	2	2	-	-	-	-	-	-	4	8	-	-
Compressors	32	5.56	-	-	-	-	-	-	3	1	3	-	2	2	1	-	-	-	1	-	8	-	11	-	-	-	-
Encapsulating-machine operators	14	3.87	-	-	-	-	1	2	1	4	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
Granulating-machine operators	20	5.11	-	-	-	-	-	-	-	4	4	-	1	1	-	-	1	3	-	-	-	-	-	6	-	-	-
Production packagers	281	3.84	16	7	59	17	17	17	15	6	11	8	19	34	34	6	15	-	-	-	-	-	-	-	-	-	-
Hand	119	4.07	⁴ 14	3	12	8	1	2	1	3	-	1	18	24	32	-	-	-	-	-	-	-	-	-	-	-	-
Machine	83	4.13	-	-	9	5	6	9	6	3	7	4	1	10	2	6	15	-	-	-	-	-	-	-	-	-	-
Hand and machine	79	3.18	2	4	38	4	10	6	8	-	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Custodial and material movement																											
Janitors	48	4.60	-	-	-	4	2	-	4	1	1	5	4	-	12	5	4	-	6	-	-	-	-	-	-	-	-
Power-truck operators	9	5.53	-	-	-	-	-	-	2	-	2	-	-	-	2	-	-	-	-	-	-	-	-	5	-	-	-
Shippers and receivers ⁵	33	4.93	-	-	-	-	-	2	1	-	5	5	1	1	2	1	-	9	1	2	-	2	1	-	-	-	-
Shippers	17	4.83	-	-	-	-	-	2	1	-	3	2	-	1	-	-	6	-	-	-	1	1	-	-	-	-	-
Receivers	10	4.85	-	-	-	-	-	-	-	-	2	1	1	-	2	1	2	1	-	-	-	-	-	-	-	-	-

¹ The Los Angeles-Long Beach metropolitan area consists of Los Angeles County.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ All workers were at \$8.00 to \$8.40.

⁴ All workers were at \$2.60 to \$2.70.

⁵ Includes data for workers in classification in addition to those shown separately.

NOTE: Dashes indicate no data.

Table 9. Occupational earnings: Production workers—New Jersey

(Number of workers and average straight-time hourly earnings¹ in selected occupations in drug manufacturing, September 1978)

Department and occupation	Number of workers	Average hourly earnings	Number of workers receiving straight-time hourly earnings of—																									
			\$2.60 and under \$2.80	\$2.80 \$3.00	\$3.00 \$3.20	\$3.20 \$3.40	\$3.40 \$3.60	\$3.60 \$3.80	\$3.80 \$4.00	\$4.00 \$4.20	\$4.20 \$4.40	\$4.40 \$4.60	\$4.60 \$4.80	\$4.80 \$5.00	\$5.00 \$5.20	\$5.20 \$5.40	\$5.40 \$5.60	\$5.60 \$5.80	\$5.80 \$6.00	\$6.00 \$6.20	\$6.20 \$6.40	\$6.40 \$6.80	\$6.80 \$7.20	\$7.20 \$7.60	\$7.60 \$8.00	\$8.00 \$8.40	\$8.40 \$8.80	\$8.80 and over
All production workers	12,520	\$6.56	25	35	42	109	183	216	65	193	195	105	271	165	213	816	373	372	850	599	712	1,718	1,023	1,075	919	808	668	770
Selected occupations																												
Maintenance																												
Electricians	166	8.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	17	20	5	60	² 47
Maintenance workers, general utility	191	6.68	-	-	-	-	-	-	-	15	-	-	-	-	-	1	-	-	6	1	11	48	74	22	5	-	8	-
Mechanics (machinery)	235	7.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	6	2	41	16	75	19	18	54	2
Pipefitters	219	8.53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	5	18	25	15	57	² 95
Processing																												
Ampule-filling, sealing, or washing-machine operators	708	5.47	-	-	-	4	1	31	-	47	45	15	80	24	39	55	46	25	22	31	54	167	6	16	-	-	-	-
Chemical operators, class A	1,047	7.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	15	156	141	100	111	401	55	50
Chemical operators, class B	592	6.30	-	-	-	2	4	39	6	12	6	6	26	5	10	2	4	30	25	34	190	73	51	4	58	-	-	-
Chemical operators' helpers	81	6.53	-	-	-	-	-	-	-	-	-	1	-	-	6	-	10	8	2	10	4	8	2	2	28	-	-	-
Coaters	114	6.75	-	-	-	-	-	-	-	-	5	-	-	-	10	5	-	5	5	30	7	2	2	17	22	2	2	2
Compressors	128	6.29	-	-	-	-	10	5	10	-	-	5	1	5	10	-	-	-	-	-	-	18	5	6	38	11	2	2
Encapsulating-machine operators	57	6.16	-	-	-	-	-	-	-	-	-	10	5	-	-	-	-	-	-	5	-	1	10	23	-	3	-	-
Granulating-machine operators	82	7.57	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	4	2	24	34	17	-	-
Production packagers	1,865	5.30	25	35	20	61	88	45	14	27	30	11	52	50	15	449	80	211	199	84	207	157	-	-	5	-	-	-
Hand	421	5.07	-	-	4	28	2	8	4	22	19	6	4	30	9	143	40	92	6	4	-	-	-	-	-	-	-	-
Machine	1,203	5.53	25	35	15	10	15	-	5	-	6	-	48	20	6	306	38	105	191	74	147	157	-	-	-	-	-	-
Hand and machine	241	4.56	-	-	1	23	71	37	5	5	5	5	-	-	-	-	2	14	2	6	60	-	-	-	5	-	-	-
Custodial and material movement																												
Janitors	933	5.90	-	-	7	-	10	5	6	3	15	15	37	24	19	140	117	24	220	67	14	10	4	138	58	-	-	-
Power-truck operators	126	6.52	-	-	-	-	-	-	-	5	-	3	3	-	3	-	-	-	15	2	10	57	8	8	-	12	-	-
Shippers and receivers	154	6.28	-	-	-	-	-	-	-	1	9	3	6	-	30	1	2	2	-	8	8	19	41	7	3	14	-	-
Shippers	64	6.26	-	-	-	-	-	-	-	1	-	3	6	-	7	-	-	-	-	8	6	4	23	4	-	2	-	-
Receivers	41	6.59	-	-	-	-	-	-	-	-	4	-	6	-	3	1	2	-	-	-	2	10	9	-	3	7	-	-
Shippers and receivers	49	6.03	-	-	-	-	-	-	-	-	8	-	-	-	28	-	1	-	2	-	2	16	9	-	3	8	-	-

¹ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

² All workers were at \$8.80 to \$9.20.

NOTE: Dashes indicate no data.

Table 10. Occupational earnings: Production workers—New York—Northeastern New Jersey.¹

(Number of workers and average straight-time hourly earnings² in selected occupations in drug manufacturing, September 1978)

Department and occupation	Number of workers	Average hourly earnings	Number of workers receiving straight-time hourly earnings of—																											
			\$2.60 and under \$2.80	\$2.80	\$3.00	\$3.20	\$3.40	\$3.60	\$3.80	\$4.00	\$4.20	\$4.40	\$4.60	\$4.80	\$5.00	\$5.20	\$5.40	\$5.60	\$5.80	\$6.00	\$6.20	\$6.40	\$6.80	\$7.20	\$7.60	\$8.00	\$8.40	\$8.80	\$9.20 and over	
All production workers	14,245	\$6.48	43	47	183	101	230	227	63	200	197	102	312	379	320	533	569	544	963	978	784	1,638	1,218	1,174	1,171	809	677	576	207	
Selected occupations																														
Maintenance																														
Electricians	191	8.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	15	51	5	58	47	6
Maintenance workers, general utility	189	6.62	-	-	-	-	2	-	15	-	-	-	-	-	-	-	-	-	2	1	14	51	62	25	5	-	8	-	-	
Mechanics (machinery)	237	7.62	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	9	2	-	10	28	74	19	18	70	-	-	
Pipefitters	256	8.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	19	67	15	55	95	-	
Processing																														
Ampule-filling, -sealing, or washing-machine operators	775	5.39	-	-	16	15	-	32	2	50	49	15	80	26	40	59	46	25	22	55	54	167	6	16	-	-	-	-	-	
Chemical operators, class A	1,085	7.66	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	23	9	15	93	213	109	113	402	55	50	-	
Chemical operators, class B	560	6.34	-	-	-	-	25	-	15	8	6	30	5	3	16	12	15	30	25	34	150	73	51	4	58	-	-	-		
Chemical operators' helpers	72	6.68	-	-	-	-	-	-	-	-	-	-	-	-	6	-	2	8	2	10	4	8	2	2	28	-	-	-		
Coaters	182	6.37	-	-	-	-	-	4	4	13	-	-	-	4	6	12	16	-	5	5	31	15	6	18	17	22	2	2		
Compressors	192	6.14	-	-	-	10	9	14	-	4	5	8	5	4	10	2	-	4	5	-	36	5	18	38	11	2	2	-		
Encapsulating-machine operators	109	5.85	-	-	-	12	-	-	-	4	10	5	-	-	10	1	6	7	-	1	28	23	3	3	-	-	-	-		
Granulating-machine operators	203	6.98	-	-	-	-	4	-	-	4	4	-	-	2	6	4	-	8	29	-	4	18	73	34	17	-	-	-		
Production packagers	2,055	5.21	25	39	127	39	106	63	16	23	32	11	69	155	19	159	169	213	203	150	271	161	-	-	5	-	-	-		
Hand	565	5.22	-	-	-	-	-	-	-	18	18	6	21	152	13	147	86	92	8	4	-	-	-	-	-	-	-	-		
Machine	1,070	5.68	25	35	15	10	15	-	5	6	6	-	48	-	6	12	81	107	193	140	211	161	-	-	-	-	-	-		
Hand and machine	420	4.01	-	4	112	29	91	63	11	5	8	5	-	3	-	-	2	14	2	6	60	-	-	-	5	-	-	-		
Custodial and material movement																														
Janitors	938	5.86	-	-	5	-	14	10	6	6	18	15	36	26	44	104	119	24	220	67	14	10	4	138	58	-	-	-		
Power-truck operators	124	6.62	-	-	-	-	-	-	-	5	-	3	3	-	3	-	-	-	3	6	10	57	8	14	-	12	-	-		
Shippers and receivers	174	6.29	-	-	-	-	-	-	-	-	5	3	6	-	29	-	2	5	-	38	4	17	41	7	3	14	-	-		
Shippers	65	6.29	-	-	-	-	-	-	-	-	-	3	6	-	6	-	-	-	-	15	2	4	23	4	-	2	-	-		
Receivers	59	6.54	-	-	-	-	-	-	-	-	-	-	-	3	-	2	-	-	23	2	10	9	-	3	7	-	-			
Shippers and receivers	50	5.98	-	-	-	-	-	-	-	-	5	-	-	-	20	-	-	5	-	-	3	9	3	-	5	-	-			

¹ The New York-Northeastern New Jersey consolidated area consists of the following metropolitan areas: Nassau-Suffolk, N.Y.; New York, N.Y.-N.J.; Jersey City, Long Branch-Asbury Park, Newark, New Brunswick-Perth Amboy-Sayreville, and Paterson-Clifton-Passaic, N.J.; and Norwalk and Stamford, Conn.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

NOTE: Dashes indicate no data.

Table 11. Occupational averages: Professional and technical workers—all establishments

(Number of workers and average straight-time weekly earnings and hours¹ in selected occupations, drug manufacturing, United States and selected regions, September 1978)

Occupation	United States ²					Middle Atlantic					Southeast					
	Number of workers	Average weekly hours (Standard)	Weekly earnings ¹			Number of workers	Average weekly hours (Standard)	Weekly earnings ¹			Number of workers	Average weekly hours (Standard)	Weekly earnings ¹			
			Mean	Median	Middle range			Mean	Median	Middle range			Mean	Median	Middle range	
Biologists I	470	39.0	\$280.50	\$272.50	\$246.50 - \$317.00	300	38.5	\$300.50	\$290.00	\$267.50 - \$346.50	-	-	-	-	-	-
Biologists II	699	39.5	328.50	326.50	294.00 - 371.50	495	39.0	346.50	344.00	309.00 - 388.00	-	-	-	-	-	-
Biologists III	694	39.5	373.50	366.00	319.50 - 419.00	389	39.0	396.00	388.00	338.00 - 439.50	-	-	-	-	-	-
Biologists IV	513	39.5	450.50	448.50	404.50 - 483.00	330	39.5	459.50	449.50	419.50 - 488.50	-	-	-	-	-	-
Biologists V	326	39.5	551.00	544.50	480.00 - 614.50	205	39.0	566.00	557.50	508.00 - 638.50	-	-	-	-	-	-
Biologists VI	165	39.5	642.50	662.50	576.00 - 709.50	125	39.5	643.50	658.00	576.00 - 702.50	-	-	-	-	-	-
Chemists I	679	39.5	268.50	264.00	240.50 - 288.00	429	39.0	282.00	270.50	255.50 - 303.50	-	-	-	-	-	-
Chemists II	1147	39.5	317.00	317.00	286.00 - 351.50	821	39.0	326.50	322.00	292.00 - 362.00	40	39.5	\$284.50	\$288.00	\$238.00 - \$318.50	
Chemists III	1432	39.5	377.50	366.50	333.50 - 410.00	982	39.5	392.50	380.00	343.50 - 433.50	62	40.0	335.50	345.50	332.00 - 368.50	
Chemists IV	1102	39.5	466.00	457.50	405.00 - 508.50	822	39.5	474.00	462.50	410.50 - 521.00	36	39.5	427.50	404.50	344.00 - 482.00	
Chemists V	623	39.5	541.50	532.00	480.00 - 592.50	502	39.5	541.50	531.50	480.00 - 592.50	18	39.0	564.50	506.00	477.00 - 600.50	
Chemists VI	313	39.5	641.00	645.00	575.00 - 699.50	256	39.5	639.00	644.50	575.00 - 700.00	-	-	-	-	-	-
Engineers I	45	39.5	340.50	335.00	303.50 - 368.50	25	39.0	356.50	361.00	307.50 - 389.00	-	-	-	-	-	-
Engineers II	88	39.5	361.00	353.00	336.00 - 388.50	49	39.0	376.00	384.00	351.50 - 403.50	11	40.0	322.00	-	-	-
Engineers III	339	40.0	434.00	434.00	405.00 - 466.50	141	39.5	442.50	434.00	407.50 - 480.00	40	40.0	437.50	443.00	406.50 - 474.50	
Engineers IV	425	39.5	496.00	496.00	448.50 - 545.50	173	39.5	494.00	489.50	449.50 - 533.00	15	40.0	498.50	534.50	455.00 - 558.50	
Engineers V	263	40.0	570.00	576.00	524.00 - 617.50	133	39.5	554.00	553.00	499.00 - 598.00	-	-	-	-	-	-
Engineers VI	106	40.0	653.00	642.50	593.50 - 722.00	54	39.5	653.00	646.00	575.50 - 733.50	-	-	-	-	-	-
Science technicians I	1088	39.5	199.00	198.00	172.00 - 221.50	475	39.0	200.50	196.00	174.50 - 225.00	270	40.0	194.50	205.50	172.00 - 217.50	
Science technicians II	2131	39.5	232.00	222.50	199.00 - 261.00	1079	39.5	231.50	225.50	200.00 - 262.50	195	39.5	208.00	206.00	192.50 - 223.50	
Science technicians III	1452	39.5	294.00	300.00	250.00 - 334.00	1023	39.5	304.50	300.50	275.00 - 340.50	32	39.5	260.00	263.00	252.00 - 268.00	

See footnotes at end of table

Table 11. Occupational averages: Professional and technical workers—all establishments—Continued

(Number of workers and average straight-time weekly earnings and hours¹ in selected occupations, drug manufacturing, United States and selected regions, September 1978)

Occupation	Middle West					Pacific				
	Number of workers	Average weekly hours (Standard)	Weekly earnings ¹			Number of workers	Average weekly hours (Standard)	Weekly earnings ¹		
			Mean	Median	Middle range			Mean	Median	Middle range
Biologists I	-	-	-	-	-	40	40.0	\$258.00	\$258.00	\$236.00 - \$280.50
Biologists II	11	40.0	\$267.50	-	-	49	40.0	307.50	313.00	299.50 - 327.00
Biologists III	39	40.0	334.50	\$325.00	\$290.50 - \$351.00	48	40.0	354.00	371.00	320.50 - 396.00
Biologists IV	18	40.0	431.00	435.00	415.50 - 450.50	18	40.0	434.50	443.50	402.00 - 456.50
Biologists V	-	-	-	-	-	13	40.0	509.00	-	-
Biologists VI	-	-	-	-	-	-	-	-	-	-
Chemists I	32	40.0	252.50	253.50	229.00 - 283.50	-	-	-	-	-
Chemists II	52	40.0	290.00	267.00	255.00 - 313.50	75	40.0	299.00	308.50	257.50 - 329.50
Chemists III	62	40.0	356.00	343.00	304.00 - 398.50	92	40.0	359.00	352.50	318.00 - 394.50
Chemists IV	32	39.5	467.00	476.00	403.50 - 531.50	43	40.0	439.50	431.50	390.50 - 475.00
Chemists V	14	39.5	560.50	-	-	11	39.5	505.50	-	-
Chemists VI	-	-	-	-	-	-	-	-	-	-
Engineers I	-	-	-	-	-	-	-	-	-	-
Engineers II	-	-	-	-	-	-	-	-	-	-
Engineers III	-	-	-	-	-	-	-	-	-	-
Engineers IV	16	40.0	435.50	422.00	402.00 - 450.00	10	40.0	459.50	-	-
Engineers V	-	-	-	-	-	-	-	-	-	-
Engineers VI	-	-	-	-	-	-	-	-	-	-
Science technicians I	35	39.5	207.00	194.00	181.00 - 251.50	57	40.0	179.50	171.50	167.00 - 185.50
Science technicians II	162	40.0	247.00	229.50	204.00 - 291.50	93	40.0	210.00	200.50	190.00 - 222.00
Science technicians III	100	40.0	285.00	257.00	220.00 - 344.50	32	40.5	233.00	229.50	218.00 - 253.50

¹ Weekly hours have been rounded to the nearest half hour, and weekly earnings to the nearest half dollar. Earnings information excludes premium pay for overtime and for work on weekends, holidays, and late shifts. See appendix A for methods used in computing medians and middle ranges. Medians and middle ranges are not

provided for occupations with fewer than 15 workers.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Table 12. Occupational averages: Professional and technical workers—pharmaceuticals(Number of workers and average straight-time weekly earnings and hours¹ in selected occupations, United States and selected regions, September 1978)

Occupation	United States ²					Middle Atlantic					Southeast					
	Number of workers	Average weekly hours (Standard)	Weekly earnings ¹			Number of workers	Average weekly hours (Standard)	Weekly earnings ¹			Number of workers	Average weekly hours (Standard)	Weekly earnings ¹			
			Mean	Median	Middle range			Mean	Median	Middle range			Mean	Median	Middle range	
Biologists I	357	39.0	\$282.00	\$272.50	\$253.50 - \$304.00	228	39.0	\$297.00	\$288.00	\$267.50 - \$328.00	-	-	-	-	-	-
Biologists II	520	39.5	336.50	332.00	299.50 - 375.50	385	39.5	350.50	346.00	312.00 - 387.50	-	-	-	-	-	-
Biologists III	522	39.5	373.00	366.50	324.50 - 413.00	303	39.5	387.50	378.00	337.00 - 433.00	-	-	-	-	-	-
Biologists IV	404	39.5	448.50	448.50	408.00 - 481.50	278	39.5	449.00	442.50	414.50 - 480.50	-	-	-	-	-	-
Biologists V	192	39.5	528.50	529.00	476.00 - 576.00	125	39.0	520.00	526.50	476.00 - 566.50	-	-	-	-	-	-
Biologists VI	149	39.5	648.00	665.50	584.50 - 711.00	117	39.5	647.00	661.50	584.50 - 704.00	-	-	-	-	-	-
Chemists I	592	39.0	263.00	260.00	237.50 - 281.00	364	39.0	275.00	269.00	250.00 - 289.00	-	-	-	-	-	-
Chemists II	1073	39.5	316.00	316.00	286.00 - 348.50	780	39.0	326.00	321.50	294.00 - 360.00	37	39.5	\$277.00	\$288.00	\$235.00 - \$315.00	
Chemists III	1273	39.5	372.00	366.50	332.00 - 405.00	883	39.5	385.00	377.50	341.00 - 419.00	58	40.0	341.50	346.00	334.00 - 370.00	
Chemists IV	957	39.5	457.50	450.00	401.00 - 500.00	714	39.5	463.00	452.00	403.00 - 504.00	36	39.5	427.50	404.50	344.00 - 482.00	
Chemists V	542	39.5	532.00	528.00	476.50 - 585.50	429	39.5	529.50	527.50	470.50 - 584.50	18	39.0	564.50	506.00	477.00 - 600.50	
Chemists VI	296	39.5	641.00	645.00	576.00 - 699.50	248	39.5	639.50	645.00	576.00 - 699.50	-	-	-	-	-	-
Engineers I	28	39.5	319.00	321.50	300.00 - 339.00	10	39.0	316.50	-	- - -	-	-	-	-	-	-
Engineers II	44	39.5	362.00	353.50	324.50 - 396.50	26	39.5	382.00	395.50	353.50 - 410.50	-	-	-	-	-	-
Engineers III	263	40.0	432.50	434.00	406.50 - 466.00	105	40.0	435.50	432.00	406.50 - 466.50	37	40.0	440.50	443.50	407.50 - 479.50	
Engineers IV	372	40.0	500.00	503.00	452.50 - 550.50	142	39.5	496.50	492.50	451.00 - 533.50	15	40.0	498.50	534.50	455.00 - 558.50	
Engineers V	206	40.0	577.50	582.00	531.00 - 625.50	104	39.5	553.00	554.50	506.50 - 594.50	-	-	-	-	-	-
Engineers VI	93	40.0	646.00	635.00	585.50 - 698.50	43	39.5	639.00	631.00	575.50 - 698.00	-	-	-	-	-	-
Science technicians I	908	39.5	196.00	194.00	172.00 - 217.50	407	39.0	196.50	195.00	173.00 - 224.00	240	40.0	191.00	184.50	172.00 - 217.50	
Science technicians II	1694	39.5	228.00	220.00	198.00 - 253.00	906	39.0	226.50	221.00	199.00 - 255.00	195	39.5	208.00	206.00	192.50 - 223.50	
Science technicians III	1200	39.5	296.00	300.50	259.00 - 331.00	924	39.5	304.00	300.50	275.00 - 338.00	32	39.5	260.00	263.00	252.00 - 268.00	

See footnotes at end of table.

Table 12. Occupational averages: Professional and technical workers—pharmaceuticals—Continued(Number of workers and average straight-time weekly earnings and hours¹ in selected occupations, United States and selected regions, September 1978)

Occupation	Middle West					Pacific				
	Number of workers	Average weekly hours (Standard)	Weekly earnings ¹			Number of workers	Average weekly hours (Standard)	Weekly earnings ¹		
			Mean	Median	Middle range			Mean	Median	Middle range
Biologists I	-	-	-	-	- - -	-	-	-	-	- - -
Biologists II	-	-	-	-	- - -	-	-	-	-	- - -
Biologists III	-	-	-	-	- - -	35	40.0	\$359.50	\$384.00	\$320.00 - \$404.50
Biologists IV	-	-	-	-	- - -	7	40.0	453.50	-	- - -
Biologists V	-	-	-	-	- - -	-	-	-	-	- - -
Biologists VI	-	-	-	-	- - -	-	-	-	-	- - -
Chemists I	23	40.0	\$238.00	\$230.00	\$227.50 - \$262.00	-	-	-	-	- - -
Chemists II	36	40.0	272.50	262.50	255.00 - 297.50	69	40.0	306.00	318.50	272.50 - 332.00
Chemists III	38	39.5	327.50	333.00	299.00 - 356.50	84	40.0	366.50	366.00	331.50 - 399.00
Chemists IV	17	39.5	442.00	433.00	343.00 - 529.00	42	40.0	441.50	432.00	391.00 - 476.00
Chemists V	11	39.5	557.00	-	- - -	9	39.0	503.50	-	- - -
Chemists VI	-	-	-	-	- - -	-	-	-	-	- - -
Engineers I	-	-	-	-	- - -	-	-	-	-	- - -
Engineers II	-	-	-	-	- - -	-	-	-	-	- - -
Engineers III	8	40.0	327.50	-	- - -	-	-	-	-	- - -
Engineers IV	-	-	-	-	- - -	-	-	-	-	- - -
Engineers V	-	-	-	-	- - -	-	-	-	-	- - -
Engineers VI	-	-	-	-	- - -	-	-	-	-	- - -
Science technicians I	35	39.5	207.00	194.00	181.00 - 251.50	43	40.0	169.00	167.00	163.50 - 173.50
Science technicians II	82	40.0	216.00	208.50	198.00 - 229.50	81	40.0	202.50	198.00	189.50 - 217.00
Science technicians III	34	40.0	228.00	220.00	220.00 - 237.50	32	40.5	233.00	229.50	218.00 - 253.50

¹ Weekly hours have been rounded to the nearest half hour, and weekly earnings to the nearest half dollar. Earnings information excludes premium pay for overtime and for work on weekends, holidays, and late shifts. See appendix A for methods used in computing medians and middle ranges. Medians and middle ranges are not

provided for occupations with fewer than 15 workers.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Table 13. Occupational earnings: Professional and technical workers—Los Angeles—Long Beach, Calif.¹

(Number of workers and average straight-time weekly earnings² in selected occupations in drug manufacturing, September 1978)

Occupation	Number of workers	Average weekly hours (standard)	Average weekly earnings (standard)	Number of workers receiving straight-time weekly earnings of—																					
				\$180 and under \$200	\$200 - \$220	\$220 - \$240	\$240 - \$260	\$260 - \$280	\$280 - \$300	\$300 - \$320	\$320 - \$340	\$340 - \$360	\$360 - \$380	\$380 - \$400	\$400 - \$420	\$420 - \$440	\$440 - \$460	\$460 - \$480	\$480 - \$500	\$500 - \$520	\$520 - \$540	\$540 and over			
Biologists III	9	40.0	\$266.00	-	-	-	5	3	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemists I	13	40.0	220.50	3	3	5	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemists II	18	40.0	246.50	-	3	2	8	4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemists III	30	40.0	323.00	-	-	-	4	2	4	7	1	7	2	-	2	1	-	-	-	-	-	-	-	1	1
Chemists IV	10	40.0	417.50	-	-	-	-	-	-	-	-	1	2	3	-	-	-	-	-	-	-	-	-	-	-
Chemists V	6	40.0	511.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	1	-	-	-	-	2
Engineers IV	10	40.0	459.50	-	-	-	-	-	-	-	-	-	-	-	-	-	3	2	3	2	-	-	-	-	-

¹ The Los Angeles—Long Beach metropolitan area consists of Los Angeles County.

² Average weekly hours are rounded to the nearest half hour and earnings to the nearest half dollar. Earnings information excludes premium pay for overtime and for work on weekends, holi-

days, and late shifts.

NOTE: Dashes indicate no data.

Table 14. Occupational earnings: Professional and technical workers—New Jersey

(Number of workers and average straight-time weekly earnings¹ in selected occupations in drug manufacturing, September 1978)

Occupation	Number of workers	Average weekly hours (standard)	Average weekly earnings (standard)	Number of workers receiving straight-time weekly earnings of—																							
				\$120 and under \$140	\$140 - \$160	\$160 - \$180	\$180 - \$200	\$200 - \$220	\$220 - \$240	\$240 - \$260	\$260 - \$280	\$280 - \$300	\$300 - \$320	\$320 - \$340	\$340 - \$360	\$360 - \$380	\$380 - \$400	\$400 - \$440	\$440 - \$480	\$480 - \$520	\$520 - \$560	\$560 - \$600	\$600 - \$640	\$640 - \$680	\$680 - \$720	\$720 - \$760	\$760 and over
Biologists I	192	38.0	\$293.50	-	-	-	3	7	23	53	40	16	19	15	11	5	-	-	-	-	-	-	-	-	-	-	-
Biologists II	228	39.0	338.50	-	-	-	-	3	20	8	8	31	35	47	34	24	18	-	-	-	-	-	-	-	-	-	-
Biologists III	177	39.0	404.50	-	-	-	-	-	1	4	14	11	12	8	11	18	47	22	17	7	5	-	-	-	-	-	-
Biologists IV	168	39.0	464.00	-	-	-	-	-	-	-	3	3	2	5	7	6	27	51	43	7	3	4	5	2	-	-	
Biologists V	142	39.0	583.00	-	-	-	-	-	-	-	-	-	2	-	1	4	3	2	14	11	27	24	8	15	8	17	
Biologists VI	58	39.0	653.50	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	6	4	4	4	16	10	6	² 6	
Chemists I	310	38.5	282.50	-	-	-	2	27	81	78	41	23	21	16	12	5	4	-	-	-	-	-	-	-	-	-	-
Chemists II	569	39.5	332.50	-	-	-	4	3	31	50	59	84	87	78	87	47	36	3	-	-	-	-	-	-	-	-	-
Chemists III	634	39.5	399.50	-	-	-	-	-	6	5	20	43	60	43	95	73	114	94	43	22	12	4	-	-	-	-	
Chemists IV	468	39.0	468.00	-	-	-	-	-	-	-	4	6	8	17	36	46	74	75	87	39	41	15	14	6	-	-	
Chemists V	337	39.5	536.00	-	-	-	-	-	-	-	-	-	-	1	3	10	31	47	66	71	36	28	13	8	17	6	
Chemists VI	180	39.5	624.50	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	19	28	17	23	38	30	11	9	
Engineers I	17	38.5	330.50	-	-	-	-	-	-	2	2	5	1	2	3	2	-	-	-	-	-	-	-	-	-	-	-
Engineers II	42	39.0	379.00	-	-	-	-	-	-	-	-	-	2	7	4	5	11	11	2	-	-	-	-	-	-	-	-
Engineers III	105	39.5	447.00	-	-	-	-	-	-	-	-	1	-	3	3	7	38	24	20	9	-	-	-	-	-	-	-
Engineers IV	117	39.5	506.50	-	-	-	-	-	-	-	-	-	-	2	3	-	10	22	36	19	14	8	2	1	-	-	
Engineers V	89	39.5	566.50	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5	2	19	13	22	12	8	6	1	
Engineers VI	39	39.5	647.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	5	7	5	2	3	9	³ 5	
Science technicians I	244	38.5	205.50	10	34	15	47	34	49	32	21	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Science technicians II	509	39.0	232.50	-	16	50	77	71	83	41	88	56	26	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Science technicians III	442	39.5	305.00	-	-	-	2	17	16	24	20	44	181	35	71	32	-	-	-	-	-	-	-	-	-	-	-

¹ Average weekly hours are rounded to the nearest half hour and earnings to the nearest half dollar. Earnings information excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

² Workers were distributed as follows: 4 at \$760 to \$800 and 2 at \$800 and over.

³ All workers were at \$760 to \$800.

NOTE: Dashes indicate no data.

Table 17. Scheduled weekly hours

(Percent of production workers in drug manufacturing establishments by scheduled weekly hours,¹ United States and selected regions, September 1978)

Weekly hours	United States ²	Middle Atlantic	Southeast	Middle West	Pacific
All workers	100	100	100	100	100
37.5 hours	4	7	-	-	-
Over 37.5 and under 40 hours	3	3	-	7	13
40 hours	93	90	100	93	87

¹ Data relate to the predominant schedule for full-time day-shift workers in each establishment.

² Includes data for regions in addition to those shown separately.

NOTE: Because of rounding, sums of individual items may not equal 100. Dashes indicate no data.

Table 18. Shift differential provisions

(Percent of production workers in drug manufacturing establishments by shift differential provisions,¹ United States and selected regions, September 1978)

Shift differential	United States ²	Middle Atlantic	Southeast	Middle West	Pacific	Shift differential	United States ²	Middle Atlantic	Southeast	Middle West	Pacific
Second shift						Third shift					
Workers in establishments with second-shift provisions	92.1	91.6	98.6	80.7	88.8	Workers in establishments with third-shift provisions	83.6	84.5	89.6	76.7	83.1
With shift differential	91.4	91.6	98.6	80.7	86.6	With shift differential	83.4	84.5	89.6	76.7	80.5
Uniform cents per hour	72.6	66.7	90.3	69.0	79.4	Uniform cents per hour	65.7	61.8	82.8	65.0	73.3
10 cents	3.0	3.0	5.0	-	4.2	12 cents .....	.3	-	-	5.5	-
12 cents	4.0	5.2	6.7	5.5	-	15 cents	4.3	6.3	4.0	2.3	-
13 cents .....	.5	-	-	5.4	-	16 cents .....	.7	-	4.1	-	-
15 cents	17.8	11.3	46.4	2.3	22.9	17 cents .....	.3	-	-	5.4	-
17 cents .....	.3	.4	-	-	1.2	18 cents	1.5	.6	2.6	-	-
17.5 cents	1.5	-	-	23.2	-	20 cents	6.5	4.9	14.8	8.2	4.7
18 cents	3.5	2.1	4.2	-	26.0	Over 20 and under 25 cents	1.5	-	-	-	23.0
20 cents	15.7	16.6	14.8	14.7	16.7	25 cents	24.0	24.3	19.3	-	17.1
Over 20 and under 25 cents	5.8	6.0	13.2	-	-	Over 25 and under 30 cents	1.7	.4	-	23.2	-
25 cents	7.7	2.2	-	11.8	8.3	30 cents	9.2	1.6	38.1	2.4	16.7
28 cents	7.7	13.9	-	-	-	35 cents .....	.7	-	-	11.8	-
30 cents	2.1	-	-	6.1	-	Over 35 and under 40 cents	3.1	4.7	-	-	11.8
35 cents	2.5	4.9	-	-	-	40 cents	1.9	.8	-	-	-
Over 35 cents .....	.7	1.3	-	-	-	44 cents	7.5	13.9	-	-	-
Uniform percentage	18.8	24.9	8.3	11.7	7.2	45 cents	2.5	4.1	-	6.1	-
5 percent	5.9	7.1	-	-	-	Uniform percentage	17.5	22.7	6.8	11.7	7.2
7 percent .....	.7	1.5	-	-	-	7.5 percent	3.7	-	6.8	-	-
7.5 percent	1.2	-	6.8	-	-	10 percent	8.1	12.5	-	11.7	-
8 percent	5.2	10.7	-	-	-	Over 10 and under 15 percent	4.9	10.2	-	-	-
10 percent	5.8	5.6	1.6	11.7	7.2	15 percent .....	.8	-	-	-	7.2
						Other formal paid differential .....	.3	-	-	-	-

¹ Refers to policies of establishments currently operating late shifts or having provisions covering late shifts.

² Includes data for regions in addition to those shown separately.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 19. Shift differential practices

(Percent of production workers in drug manufacturing establishments employed on late shifts by amount of pay differential, United States and selected regions, September 1978)

Shift differential	United States ¹	Middle Atlantic	Southeast	Middle West	Pacific	Shift differential	United States ¹	Middle Atlantic	Southeast	Middle West	Pacific
Second shift						Third shift					
Workers employed on second shift	19.8	16.3	24.3	12.2	24.3	Workers employed on third shift	5.9	4.5	9.6	6.2	4.2
Receiving differential	19.5	16.3	24.3	12.2	24.0	Receiving differential	5.9	4.5	9.6	6.2	4.1
Uniform cents per hour	16.6	13.7	23.0	9.0	22.0	Uniform cents per hour	5.1	4.3	9.0	4.7	4.1
10 cents .....	.5	.3	1.2	-	.2	15 cents .....	.4	.4	.8	-	-
12 cents .....	.6	.8	1.2	.2	-	16 cents	(²)	-	.2	-	-
13 cents .....	.1	-	-	1.8	-	17 cents .....	.1	-	-	1.8	-
15 cents	4.6	2.5	12.5	.4	7.3	18 cents .....	.2	.1	.5	-	-
17 cents	(²)	(²)	-	-	-	20 cents .....	.3	.2	1.0	.1	.2
17.5 cents .....	.2	-	-	2.9	-	Over 20 and under 25 cents .....	.1	-	-	-	1.2
18 cents	1.1	.5	1.3	-	9.2	25 cents	1.6	1.5	1.9	-	-
20 cents	3.6	3.0	5.2	1.6	4.0	Over 25 and under 30 cents .....	.1	(²)	-	2.2	-
Over 20 and under 25 cents	1.1	1.2	1.7	-	-	30 cents	1.1	.2	4.5	-	2.8
25 cents	1.9	.2	-	1.6	1.3	35 cents	(²)	-	-	.1	-
28 cents	2.4	4.3	-	-	-	Over 35 and under 40 cents .....	.2	.4	-	-	-
30 cents .....	.3	-	-	.6	-	40 cents .....	.1	(²)	-	-	-
35 cents .....	.4	.8	-	-	-	44 cents .....	.8	1.2	-	-	-
Over 35 cents	-	-	-	-	-	45 cents .....	.1	.2	-	.6	-
Uniform percentage	2.9	2.6	1.3	3.1	1.9	Uniform percentage .....	.8	.2	.5	1.5	-
5 percent	1.8	1.6	-	-	-	7.5 percent .....	.5	-	.5	-	-
7 percent	-	-	-	-	-	10 percent .....	.2	.2	-	1.5	-
7.5 percent .....	.2	-	1.1	-	-	Over 10 and under 15 percent	(²)	(²)	-	-	-
8 percent	-	-	-	-	-	15 percent .....	.1	-	-	-	-
10 percent	1.0	.9	.2	3.1	1.9	Other formal paid differential	-	-	-	-	-

¹ Includes data for regions in addition to those shown separately.

² Less than 0.05 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 20. Paid holidays

(Percent of production workers in drug manufacturing establishments with formal provisions for paid holidays, United States and selected regions, September 1978)

Number of paid holidays	United States ¹	Middle Atlantic	Southeast	Middle West	Pacific
All workers	100	100	100	100	100
Workers in establishments providing paid holidays	100	100	100	100	100
8 days or less	3	1	2	1	7
8 days plus 1 or 2 half days	1	1	-	-	8
9 days	12	-	55	13	10
9 days plus 1 or 2 half days	(²)	-	-	-	-
10 days	26	28	36	23	50
10 days plus 1 or 2 half days	1	2	-	1	3
11 days	27	22	7	23	23
11 days plus 1 or 2 half days	1	2	-	-	-
12 days	24	39	-	31	-
13 days	1	2	-	7	-
14 days	(²)	-	-	-	-
15 days	1	1	-	-	-
Over 15 days	1	2	-	-	-

¹ Includes data for regions in addition to those shown separately.

² Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 21. Paid vacations

(Percent of production workers in drug manufacturing establishments with formal provisions for paid vacations after selected periods of service, United States and selected regions, September 1978)

Vacation policy	United States ¹	Middle Atlantic	Southeast	Middle West	Pacific	Vacation policy	United States ¹	Middle Atlantic	Southeast	Middle West	Pacific
All workers	100	100	100	100	100						
Method of payment						Amount of vacation pay²					
Workers in establishments providing paid vacations	100	100	100	100	100	After 10 years of service:—Con.					
Length-of-time payment	97	100	99	100	100	Over 3 and under 4 weeks	2	1	-	2	(³)
Percentage payment	3	-	1	-	-	4 weeks	15	15	26	16	26
Other	1	-	-	-	-	After 12 years of service:					
						2 weeks	(³)	1	-	-	1
						3 weeks	62	47	71	59	61
						Over 3 and under 4 weeks	3	5	-	-	(³)
						4 weeks	33	46	29	41	37
						Over 4 and under 5 weeks	1	1	-	-	-
Amount of vacation pay²						After 15 years of service:					
After 6 months of service:						2 weeks	(³)	-	-	-	1
Under 1 week	20	15	55	-	-	3 weeks	12	4	21	10	27
1 week	31	36	21	46	24	Over 3 and under 4 weeks	2	5	-	-	(³)
Over 1 and under 2 weeks	18	21	9	6	19	4 weeks	83	90	79	80	69
2 weeks	5	6	7	-	-	Over 4 and under 5 weeks	1	1	-	-	-
After 1 year of service:						5 weeks	1	-	-	9	-
1 week	20	13	24	49	24	6 weeks	(³)	-	-	-	3
Over 1 and under 2 weeks	1	1	-	-	-	After 25 years of service:					
2 weeks	78	86	76	44	76	2 weeks	(³)	-	-	-	1
Over 2 and under 3 weeks	1	-	-	-	(³)	3 weeks	5	3	2	1	27
3 weeks	(³)	-	-	8	-	Over 3 and under 4 weeks	(³)	-	-	-	(³)
After 2 years of service:						4 weeks	18	6	42	37	20
1 week	2	-	1	6	-	Over 4 and under 5 weeks	2	2	-	-	-
Over 1 and under 2 weeks	(³)	1	-	-	-	5 weeks	72	89	55	54	49
2 weeks	96	98	99	86	100	6 weeks	1	-	-	8	3
Over 2 and under 3 weeks	1	1	-	-	(³)	Over 7 weeks	1	1	-	-	-
3 weeks	(³)	-	-	8	-	After 30 years of service: ⁴					
After 3 years of service:						2 weeks	(³)	-	-	-	1
1 week	(³)	-	1	-	-	3 weeks	5	3	2	1	27
2 weeks	96	98	99	92	85	Over 3 and under 4 weeks	(³)	-	-	-	(³)
Over 2 and under 3 weeks	2	2	-	-	4	4 weeks	18	6	42	37	20
3 weeks	1	-	-	8	11	Over 4 and under 5 weeks	1	2	-	-	-
After 5 years of service:						5 weeks	44	38	55	54	49
2 weeks	26	20	38	35	12	6 weeks	31	51	-	8	3
Over 2 and under 3 weeks	2	3	-	2	3	Over 6 and under 7 weeks	1	-	-	-	-
3 weeks	71	76	62	63	84	Over 7 weeks	1	1	-	-	-
Over 3 and under 4 weeks	1	1	-	-	(³)						
After 10 years of service:											
2 weeks	1	1	-	1	1						
Over 2 and under 3 weeks	(³)	1	-	-	-						
3 weeks	82	82	74	81	72						

¹ Includes data for regions in addition to those shown separately.

² Vacation payments, such as percent of annual earnings, were converted to an equivalent time basis. Periods of service were chosen arbitrarily and do not necessarily reflect individual establishment provisions for progression. For example, changes indicated at 10 years may include changes that occurred between 5 and 10 years.

³ Less than 0.5 percent.

⁴ Vacation provisions were virtually the same after longer periods of service.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no data.

Table 22. Health, insurance, and retirement plans(Percent of production workers in drug manufacturing establishments with specified health, insurance, and retirement plans,¹ United States and selected regions, September 1978)

Type of plan	United States ²	Middle Atlantic	Southeast	Middle West	Pacific
All workers	100	100	100	100	100
Workers in establishments providing:					
Life insurance	99	99	100	100	100
Noncontributory plans	70	62	93	82	83
Accidental death and dismemberment insurance	84	84	90	66	82
Noncontributory plans	63	66	62	48	69
Sickness and accident insurance or sick leave or both ³	94	91	100	100	97
Sickness and accident insurance	71	82	93	83	6
Noncontributory plans	58	58	93	74	6
Sick leave (full pay, no waiting period)	62	71	28	49	95
Sick leave (partial pay or waiting period)	12	6	18	23	2
Long-term disability insurance	54	60	39	31	38
Noncontributory plans	37	40	28	22	28
Hospitalization insurance	99	99	100	100	100
Noncontributory plans	67	60	79	89	69
Surgical insurance	99	99	100	100	100
Noncontributory plans	67	60	79	89	69
Medical insurance	99	99	100	100	100
Noncontributory plans	67	60	79	89	69
Major medical insurance	92	84	100	100	100
Noncontributory plans	64	53	79	89	69
Dental insurance	54	57	28	63	84
Noncontributory plans	32	34	10	54	59
Retirement plans ⁴	92	98	83	90	78
Pensions	92	98	83	90	78
Noncontributory plans	66	79	37	74	74
Severance pay	6	12	-	-	-
No plans	(⁵)	1	-	-	-

¹ Includes those plans for which the employer pays at least part of the cost and excludes legally required plans such as workers' compensation and social security; however, plans required by State temporary disability laws are included if the employer contributes more than is legally required or the employees receive benefits in excess of legal requirements.

"Noncontributory plans" include only those plans financed entirely by the employer.

² Includes data for regions in addition to those

shown separately.

³ Unduplicated total of workers receiving sickness and accident insurance and sick leave shown separately.

⁴ Unduplicated total of workers covered by pension plans and severance pay shown separately.

⁵ Less than 0.5 percent.

NOTE: Dashes indicate no data.

Table 23. Other selected benefits

(Percent of production workers in drug manufacturing establishments providing funeral leave pay, jury-duty pay, technological severance pay, and cost-of-living adjustments,¹ United States and selected regions, September 1978)

Type of benefit	United States ²	Middle Atlantic	Southeast	Middle West	Pacific
Workers in establishments with provisions for:					
Funeral leave	99	99	99	100	92
Jury-duty leave	96	99	85	100	85
Technological severance pay	24	29	-	4	38
Cost-of-living adjustments	20	28	-	6	10
Based on BLS Consumer Price Index	19	28	-	6 ³	10
Other basis	1	(³)	-	-	-

¹ For definition of items, see appendix A.

² Includes data for regions in addition to those shown separately.

³ Less than 0.5 percent.

NOTE: Dashes indicate no data.

Table 24. Professional and technical workers: Selected benefits

(Percent of professional and technical workers in drug manufacturing establishments where selected benefit provisions were compared with those of production workers,¹ drug manufacturing, United States and selected regions, September 1978)

Benefit	United States ²	Middle Atlantic	Southeast	Middle West	Pacific	Los Angeles-Long Beach	New Jersey	New York-Northeastern New Jersey
Holidays								
Same as production workers:								
Professional workers	96	99	65	100	64	62	98	98
Technical workers	98	99	93	100	100	100	97	98
More liberal than production workers:								
Professional workers	1	-	6	-	36	38	-	-
Less liberal than production workers:								
Professional workers	1	1	-	-	-	-	2	2
Technical workers	1	1	-	-	-	-	3	2
Vacations								
Same as production workers:								
Professional workers	73	66	55	72	100	100	56	59
Technical workers	85	81	76	77	100	100	74	76
More liberal than production workers:								
Professional workers	24	34	12	28	-	-	43	40
Technical workers	14	19	17	23	-	-	26	24
Less liberal than production workers:								
Professional workers	1	1	5	-	-	-	1	1
Life insurance								
Same as production workers:								
Professional workers	78	75	57	45	94	100	80	79
Technical workers	86	86	81	57	97	100	94	93
More liberal than production workers:								
Professional workers	18	23	9	55	6	-	18	19
Technical workers	12	14	12	43	3	-	6	7
Less liberal than production workers:								
Professional workers	1	1	5	-	-	-	1	1
Hospitalization insurance								
Same as production workers:								
Professional workers	92	93	60	89	100	100	99	99
Technical workers	94	93	93	92	100	100	100	100
More liberal than production workers:								
Professional workers	5	6	6	11	-	-	-	-
Technical workers	4	6	-	8	-	-	-	-
Less liberal than production workers:								
Professional workers	1	(³)	5	-	-	-	1	1
Retirement pensions								
Same as production workers:								
Professional workers	78	73	66	56	94	100	68	72
Technical workers	89	89	93	72	73	100	92	93
More liberal than production workers:								
Professional workers	19	27	-	43	-	-	32	27
Technical workers	7	9	-	28	-	-	6	5
Less liberal than production workers:								
Professional workers	(³)	-	5	-	-	-	-	-

¹ For definition of items, see appendix A.

² Includes data for regions in addition to those shown separately.

³ Less than 0.5 percent.

NOTE: Sums of individual items may not equal 100 because some workers, not shown in this table, were in establishments which did not employ production workers or which did not provide benefits to any workers. Dashes indicate no data.

Appendix A. Scope and Method of Survey

Scope of survey

The survey included establishments, including research units, of companies engaged primarily in manufacturing medicinal chemicals and pharmaceutical products (industry group 283 as defined in the 1972 edition of the *Standard Industrial Classification Manual* prepared by the U.S. Office of Management and Budget). Separate auxiliary units such as central offices were excluded.

Establishments studied were selected from those employing 50 workers or more at the time of reference of the data used in compiling the universe lists. Table A-1 shows the number of establishments and workers estimated to be within the scope of the survey, as well as the number actually studied by the Bureau.

Products

Classification of establishments by industry was based on the principal product manufactured. For example, if 60 percent of the total value of an establishment's production was pharmaceuticals, and 40 percent was medicinal chemicals, all workers in that establishment

were considered as producing pharmaceuticals.

Method of study

Data were obtained by personal visits of the Bureau's field representatives to a probability-based sample of establishments within the scope of the survey. To obtain appropriate accuracy at minimum cost, a greater proportion of large than of small establishments was studied. All estimates are presented, therefore, as relating to all establishments in the industry, excluding only those below the minimum size at the time of reference of the universe data.

Establishment definition

An establishment is defined for this study as a single physical location where industrial operations are performed, consisting of either a manufacturing plant, a combination plant and research facility, or a separate research facility. An establishment is not necessarily identical with a company, which may consist of one establishment or more.

Table A-1. Estimated number of establishments and employees within scope of survey¹ and number studied, drug manufacturing industries, September 1978

Region ² and area ³	Number of establishments ⁴		Workers in establishments				Actually studied
	Within scope of study	Actually studied	Within scope of study				
			Total ⁵	Production workers	Professional workers	Technical workers	
United States ⁶	284	153	124,775	54,332	17,930	7,099	92,807
Middle Atlantic ⁷	118	55	69,627	26,228	11,038	3,578	49,865
New Jersey	63	24	39,265	12,520	7,141	1,862	28,337
New York-Northeastern N.J.	77	27	43,764	14,245	8,289	2,211	31,527
Southeast	27	14	14,075	9,577	1,268	844	10,272
Middle West	30	18	7,433	3,421	541	367	6,268
Pacific ⁷	35	25	8,250	3,593	64	37	5,666
Los Angeles-Long Beach, Calif.	19	14	3,245	1,717	60	27	2,874

¹ Survey coverage was reduced to 84 percent of the nationwide employment in these industries because of the unavailability of data from large establishments in the industry that could not be adequately represented by other establishments. Because these nonrespondents were centered in the Great Lakes region, which has about one-fourth of the industries' work force, data for the region could not be shown separately.

² The regions used in this study include: *Middle Atlantic*—New Jersey, New York, and Pennsylvania; *Southeast*—Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee; *Middle West*—Iowa, Kansas, Missouri, North Dakota, and South

Dakota; and *Pacific*—California, Nevada, Oregon, and Washington.

³ See individual area tables 8-10 and 13-15 for definitions of selected areas.

⁴ Includes only those establishments with 50 workers or more at the time of reference of the universe data.

⁵ Includes other workers in addition to the categories shown separately.

⁶ Includes data for regions in addition to those shown separately. Alaska and Hawaii were not included in the study.

⁷ Includes data for areas in addition to those shown separately.

Employment

Estimates of the number of workers within the scope of the study are intended as a general guide to the size and composition of the industry's labor force, rather than as precise measures of employment.

Production workers

The terms "production workers" and "production and related workers," used interchangeably in this bulletin, include working supervisors and all nonsupervisory workers engaged in nonoffice activities. Administrative, executive, professional, and technical personnel, and force-account construction employees, who are used as a separate work force on the firm's own properties, are excluded.

Professional and technical workers

"Professional workers" include those who are engaged in work at a level which requires knowledge equivalent to that acquired through completion of a 4-year college course. "Technical workers" include those who are engaged in technical work using knowledge and skills obtained through study at a technical school, a 4-year or 2-year college course, or equivalent training or experience. Estimates of professional and technical workers are not limited to the occupations (biologists, chemists, engineers, and science technicians) for which separate data were provided.

Occupational classification

Occupational classification was based on a uniform set of job descriptions designed to take account of interestablishment and interarea variations in duties within the same job. (See appendix B for these descriptions.) The criteria for selection of the occupations were: The number of workers in the occupation; the usefulness of the data in collective bargaining; and appropriate representation of the entire job scale in the industry. Working supervisors, apprentices, learners, beginners, trainees, and handicapped, part-time, temporary, and probationary workers were not reported in the data for selected production occupations but were included in the data for all production workers. Part-time workers were excluded from the data reported for professional and technical occupations.

Wage data

Information on wages relates to straight-time hourly earnings, excluding premium pay for overtime and for work on weekends, holidays, and late shifts. Incentive payments, such as those resulting from piecework or production bonus systems, and cost-of-living bonuses were included as part of the workers' regular pay. Non-production bonus payments, such as Christmas or year-end bonuses, were excluded.

Average (mean) hourly rates or earnings for each occupation or category of workers, such as production

workers, were calculated by weighting each rate (or hourly earnings) by the number of workers receiving the rate, totaling, and dividing by the number of individuals. The hourly earnings of salaried workers were obtained by dividing straight-time salary by normal (or standard) hours to which the salary corresponds.

The *median* designates position; that is, one-half of the employees surveyed received more than this rate and one-half received less. The *middle range* is defined by two rates of pay such that one-fourth of the employees earned less than the lower of these rates and one-fourth earned more than the higher rate.

Size of community

Tabulations by size of community pertain to metropolitan and nonmetropolitan areas. The term "metropolitan areas," as used in this bulletin, refers to the Standard Metropolitan Statistical Areas as defined by the U.S. Office of Management and Budget through February 1974. Except in New England, a Standard Metropolitan Statistical Area is defined as a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more. Counties contiguous to the one containing such a city are included in a Standard Metropolitan Statistical Area if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, where the city and town are administratively more important than the county, they are the units used in defining Standard Metropolitan Statistical Areas.

Labor-management agreements

Separate wage data are presented, where possible, for establishments that had (1) a majority of the production workers covered by labor-management contracts, and (2) none or a minority of the production workers covered by labor-management contracts.

Method of wage payment

Tabulations by method of wage payment relate to the number of production workers paid under the various time and incentive wage systems. Formal rate structures for time-rated workers provide single rates or a range of rates for individual job categories. In the absence of a formal rate structure, pay rates are determined primarily by the qualifications of the individual worker. A single rate structure is one in which the same rate is paid to all experienced workers in the same job classification. Learners, apprentices, or probationary workers may be paid according to rate schedules which start below the single rate and permit the workers to achieve the full job rate over a period of time. An experienced worker occasionally may be paid above or below the single rate for special reasons, but such payments are exceptions. Range-of-rate plans are those in which the minimum, maximum, or both of these rates

paid experienced workers for the same job are specified. Specific rates of individual workers within the range may be determined by merit, length of service, or a combination of these. Incentive workers are classified under piecework or bonus plans. Piecework is work for which a predetermined rate is paid for each unit of output. Production bonuses are for production in excess of a quota or for completion of a task in less than standard time.

Scheduled weekly hours

Data on weekly hours refer to the predominant work schedule for full-time production workers employed on the day shift.

Shift provisions and practices

Shift provisions relate to the policies of establishments either currently operating late shifts or having formal provisions covering late-shift work. Shift practices relate to workers employed on late shifts at the time of the survey.

Establishment practices and supplementary wage provisions

Supplementary benefits in an establishment were considered applicable to all production workers if they applied to half or more of such workers in the establishment. Similarly, if fewer than half of the workers were covered, the benefit was considered nonexistent in the establishment. Because of length-of-service and other eligibility requirements, the proportion of workers receiving the benefits may be smaller than estimated. Estimates for professional and technical workers were based on a comparison, within each establishment, of the benefits provided these workers and benefits provided to production workers.

Paid holidays. Paid holiday provisions relate to full-day and half-day holidays provided annually.

Paid vacations. The summary of vacation plans is limited to formal arrangements and excludes informal plans whereby time off with pay is granted at the discretion of the employer or supervisor. Payments not on a time basis were converted; for example, a payment of 2 percent of annual earnings was considered the equivalent of 1 week's pay. The periods of service for which data are presented represent the most common practices, but they do not necessarily reflect individual establishment provisions for progression. For example, changes in proportions indicated at 10 years of service may include changes which occurred between 5 and 10 years.

Health, insurance, and retirement plans. Data are presented for health, insurance, pension, and retirement severance plans for which the employer pays all or a part of the cost, excluding programs required by law such as workers' compensation and social security.

Among plans included are those underwritten by a commercial insurance company and those paid directly by the employer from his current operating funds or from a fund set aside for this purpose.

Death benefits are included as a form of life insurance. Sickness and accident insurance is limited to that type of insurance under which predetermined cash payments are made directly to the insured on a weekly or monthly basis during illness or accident disability. Information is presented for all such plans to which the employer contributes at least a part of the cost. However, in New York and New Jersey, where temporary disability insurance laws require employer contributions,¹ plans are included only if the employer (1) contributes more than is legally required, or (2) provides the employees with benefits which exceed the requirements of the law.

Tabulations of paid sick leave plans are limited to formal plans which provide full pay or a proportion of the worker's pay during absence from work because of illness; informal arrangements have been omitted. Separate tabulations are provided for (1) plans which provide full pay and no waiting period, and (2) plans providing either partial pay or a waiting period.

Long-term disability insurance plans provide payments to totally disabled employees upon the expiration of sick leave, sickness and accident insurance, or both, or after a specified period of disability (typically 6 months). Payments are made until the end of disability, a maximum age, or eligibility for retirement benefits. Payments may be full or partial, but are almost always reduced by social security, workers' compensation, and private pension benefits payable to the disabled employee.

Medical insurance refers to plans providing for complete or partial payment of doctors' fees. Such plans may be underwritten by a commercial insurance company or a nonprofit organization, or they may be a form of self-insurance.

Major medical insurance, sometimes referred to as extended medical or catastrophe insurance, includes plans designed to cover employees for sickness or injury involving an expense which exceeds the normal coverage of hospitalization, medical, and surgical plans.

Dental insurance, for purposes of this survey, usually covers fillings, extractions, and X-rays. Excluded are plans which cover only oral surgery or accident damage.

Tabulations of retirement pensions are limited to plans which provide regular payments for the remainder of the retiree's life. Data are presented separately for retirement severance pay (one payment or several over a specified period of time) made to employees on retirement. Establishments providing both retirement severance payments and retirement pensions to employees

¹ The temporary disability laws in California and Rhode Island do not require employer contributions.

were considered as having both retirement pensions and retirement severance plans; however, establishments having optional plans providing employees a choice of either retirement severance payments or pensions were considered as having only retirement pension benefits.

Paid funeral and jury-duty leave. Data for paid funeral and jury-duty leave relate to formal plans which provide at least partial payment for time lost as a result of attending funerals of specified family members or serving as a juror.

Technological severance pay. Data relate to formal plans providing for payments to employees permanently separated from the company because of a technological change or plant closing.

Cost-of-living adjustments. Data relate to formal plans for adjustments to wages in keeping with changes in the BLS Consumer Price Index or some other measure.

Appendix B. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field representatives in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and area to area. This classification permits the grouping of occupational wage rates representing comparable job content. Because of this emphasis on interestablishment comparability of occupational content, the Bureau's job descriptions may differ significantly from those in use in individual establishments or those prepared for other purposes. Unless otherwise indicated, these job descriptions exclude working supervisors, apprentices, learners, beginners, trainees, and handicapped, part-time, temporary, and probationary workers.

PROFESSIONAL AND TECHNICAL OCCUPATIONS

Biologist

(Bacteriologist; pathologist; pharmacologist; zoologist)

Performs professional work in research and development and quality control relating to life processes. Includes scientists engaged in the development of new substances as well as those involved in testing the safety and effectiveness of established products. Work typically requires a bachelor's degree in the life sciences or the equivalent in appropriate and substantial college level study of the life sciences plus experience. Excluded from this classification are medical scientists; e.g., physicians and pharmacists.

Biologists are classified into levels as follows:

Biologist I

General characteristics. This is the entry level of professional work requiring a bachelor's degree in the life sciences and no experience, or the equivalent of a degree in appropriate education and experience. Performs assignments designed to develop professional capabilities and to provide experience in the application of training in life sciences as it relates to the company's programs. May also receive formal classroom or seminar-type training. (Terminal positions are excluded.)

Direction received. Works under close supervision. Receives specific and detailed instructions as to required tasks and results expected. Work is checked during progress and is reviewed for accuracy upon completion.

Typical duties and responsibilities. Performs a variety of routine tasks that are planned to provide experience and familiarization with the biology staff, methods, practices, and programs of the company.

Responsibility for the direction of others. Usually none.

Biologist II

General characteristics. At this continuing developmental level, performs routine scientific work requiring selection and application of general and specialized methods, techniques, and instruments commonly used in the laboratory, and the ability to carry out instructions when less common or proposed methods or procedures are necessary. Requires work experience acquired in an entry level position or appropriate graduate level study. For training and developmental purposes, assignments may include some work that is typical of a higher level. (Terminal positions are excluded.)

Direction received. Supervisor establishes the nature and extent of analysis required, specifies methods and criteria on new types of assignments, and reviews work for thoroughness of application of methods and accuracy of results.

Typical duties and responsibilities. Carries out a wide variety of standardized methods, tests, and procedures. In accordance with specific instructions, may carry out proposed and less common ones. Is expected to detect problems in using standardized procedures because of the condition of the sample, difficulties with the equipment, etc. Recommends modifications of procedures, e.g., extending or curtailing the analysis or using alternate procedures, based on knowledge of the problem and pertinent available literature. Conducts specified phases of research projects as an assistant to an experienced scientist.

Responsibility for the direction of others. May be assisted by a few aids or technicians.

Biologist III

General characteristics. Performs a broad range of tasks, using judgment in the independent evaluation, selection, and adaptation of standard methods and techniques. May carry through a complete series of tests on a product in its different process stages. Some assignments require a specialized knowledge of one or two common categories of related substances. Performance at this level requires developmental experience in a professional position or equivalent graduate level education.

Direction received. On routine work, supervision is very general. Assistance is furnished on unusual problems and work is reviewed for application of sound professional judgment.

Typical duties and responsibilities. In accordance with instructions as to the nature of the problem, selects standard methods, tests, or procedures; when necessary, develops or works out alternate or modified methods with supervisor's concurrence. Assists in research by analyzing samples or testing new procedures that require specialized training because (a) standard methods are inapplicable, (b) analytical findings must be interpreted in terms of compliance or noncompliance with standards, or (c) specialized and advanced equipment and techniques must be adapted.

Responsibility for the direction of others. May supervise or coordinate the work of a few technicians or aids, and be assisted by lower level scientists.

Biologist IV

General characteristics. As a fully competent biologist in all conventional aspects of the subject matter or the functional area of the assignments, plans and conducts work requiring (a) mastery of specialized techniques or ingenuity in selecting and evaluating approaches to unforeseen or novel problems, and (b) ability to apply a research approach to the solution of a wide variety of problems. Requires sufficient professional experience to assure competence as a fully trained worker; or, for positions primarily of a research nature, completion of all requirements for a doctoral degree may be substituted for experience.

Direction received. Independently performs most assignments with instructions as to the general results expected. Receives technical guidance on unusual or complex problems and supervisory approval on proposed plans for projects.

Typical duties and responsibilities. Conducts laboratory assignments requiring the determination and evaluation of alternative procedures and the sequence of per-

forming them. Performs complex, exacting, unusual analytical assignments requiring specialized knowledge of products. Interprets results, prepares reports, and may provide technical advice in specialized area.

Responsibility for the direction of others. May supervise a small staff of scientists and technicians.

Biologist V

General characteristics. Participates in planning laboratory programs on the basis of specialized knowledge of problems and methods and probable value of results. May make recommendations and conclusions which serve as the basis for undertaking or rejecting important projects. Development of the knowledge and expertise required for this level of work usually reflects progressive experience through biologist IV.

Direction received. Supervision and guidance relate largely to overall objectives, critical issues, new concepts, and policy matters. Consults with supervisor concerning unusual problems and developments.

Typical duties and responsibilities. One or both of the following: (1) In a supervisory capacity, plans, organizes, and directs assigned laboratory programs. Independently defines scope and critical elements of the projects and selects approaches to be taken. A substantial portion of the work supervised is comparable to that described for biologist IV. (2) As individual researcher or worker, carries out projects requiring development of new or highly modified scientific techniques and procedures, extensive knowledge of specialty, and knowledge of related scientific fields.

Responsibility for the direction of others. Supervises, coordinates, and reviews the work of a small staff of scientists and technicians engaged in varied research and development projects, or a larger group performing routine analytical work. Estimates personnel needs and schedules and assigns work to meet completion date. Or, as individual researcher or worker, may be assisted on projects by other scientists or technicians.

Biologist VI

General characteristics. Performs work requiring leadership and expert knowledge in a specialized field, product, or process. Formulates and conducts a systematic attack on a problem area of considerable scope and complexity which must be approached through a series of complete and conceptually related studies, or a number of projects of lesser scope. The problems are complex because they are difficult to define and require unconventional or novel approaches or have other difficult features. Maintains liaison with individuals and units within and outside the organization, with responsibili-

ty for acting independently on technical matters pertaining to the field. Work at this level usually requires extensive progressive experience including work comparable to biologist V.

Direction received. Supervision received is essentially administrative, with assignments given in terms of broad objectives and limits.

Typical duties and responsibilities. One or both of the following: (1) In a supervisory capacity (a) plans, develops, coordinates, and directs a number of large and important projects or a project of major scope and importance, or (b) is responsible for the entire biological research program of a company, when the program is of limited complexity and scope. Activities supervised are of such a scope that they require a few (3 to 5) subordinate supervisors or team leaders with at least one in a position comparable to level V. (2) As individual researcher or worker determines, conceives, plans, and conducts projects of major importance to the company. Applies a high degree of originality and ingenuity in adapting, extending, and synthesizing existing theory, principles, and techniques into original combinations and configurations. May serve as a consultant to other scientists in specialty.

Responsibility for the direction of others. Plans, organizes, and supervises the work of a staff of scientists and technicians. Evaluates progress of the staff and results obtained and recommends major changes to achieve overall objectives. Or, as individual worker or researcher, may be assisted on individual projects by other scientists or technicians.

Chemist

Performs professional work in research, development, quality control, interpretation, and analysis to determine the composition, molecular structure, and properties of substances; to develop or investigate new materials and processes; and to investigate the transformation which substances undergo. Work typically requires a B.S. degree in chemistry or the equivalent in appropriate and substantial college level study of chemistry plus experience.

Chemists are classified into levels as follows:

Chemist I

General characteristics. This is the entry level of professional work requiring a bachelor's degree in chemistry and no experience, or the equivalent of a degree in appropriate education and experience. Performs assignments designed to develop professional capabilities and to provide experience in the application of training in chemistry as it relates to the company's programs. May also receive formal classroom or seminar-type training. (Terminal positions are excluded.)

Direction received. Works under close supervision. Receives specific and detailed instructions as to required tasks and results expected. Work is checked during progress and is reviewed for accuracy upon completion.

Typical duties and responsibilities. Performs a variety of routine tasks that are planned to provide experience and familiarization with the chemistry staff, methods, practices, and programs of the company. The work includes a variety of routine qualitative and quantitative analysis; physical tests to determine properties such as viscosity, tensile strength, and melting point, and assisting more experienced chemists to gain additional knowledge through personal observation and discussion.

Responsibility for the direction of others. Usually none.

Chemist II

General characteristics. At this continuing developmental level, performs routine chemical work requiring selection and application of general and specialized methods, techniques, and instruments commonly used in the laboratory, and the ability to carry out instructions when less common or proposed methods or procedures are necessary. Requires work experience acquired in an entry level position or appropriate graduate level study. For training and developmental purposes, assignments may include some work that is typical of a higher level. (Terminal positions are excluded.)

Direction received. Supervisor establishes the nature and extent of analysis required, specifies methods and criteria on new types of assignments, and reviews work for thoroughness of application of methods and accuracy of results.

Typical duties and responsibilities. Carries out a wide variety of standardized methods, tests, and procedures. In accordance with specific instructions, may carry out proposed and less common ones. Is expected to detect problems in using standardized procedures because of the condition of the sample, difficulties with the equipment, etc. Recommends modifications of procedures; e.g., extending or curtailing the analysis or using alternate procedures, based on knowledge of the problem and pertinent available literature. Conducts specified phases of research projects as an assistant to an experienced chemist.

Responsibility for the direction of others. May be assisted by a few aids or technicians.

Chemist III

General characteristics. Performs a broad range of chemical tests and procedures utilized in the laboratory, using judgment in the independent evaluation, se-

lection, and adaptation of standard methods and techniques. May carry through a complete series of tests on a product in its different process stages. Some assignments require a specialized knowledge of one or two common categories of related substances. Performance at this level requires developmental experience in a professional position or equivalent graduate level education.

Direction received. On routine work, supervision is very general. Assistance is furnished on unusual problems and work is reviewed for application of sound professional judgment.

Typical duties and responsibilities. In accordance with instructions as to the nature of the problem, selects standard methods, tests, or procedures; when necessary, develops or works out alternate or modified methods with supervisor's concurrence. Assists in research by analyzing samples or testing new procedures that require specialized training because (a) standard methods are inapplicable, (b) analytical findings must be interpreted in terms of compliance or noncompliance with standards, or (c) specialized and advanced equipment and techniques must be adapted.

Responsibility for the direction of others. May supervise or coordinate the work of a few technicians or aids, and be assisted by lower level chemists.

Chemist IV

General characteristics. As a fully competent chemist in all conventional aspects of the subject matter or the functional area of the assignments, plans and conducts work requiring (a) mastery of specialized techniques or ingenuity in selecting and evaluating approaches to unforeseen or novel problems, and (b) ability to apply a research approach to the solution of a wide variety of problems and to assimilate the details and significance of chemical and physical analyses, procedures, and test. Requires sufficient professional experience to assure competence as a fully trained worker; or, for positions primarily of a research nature, completion of all requirements for a doctoral degree may be substituted for experience.

Direction received. Independently performs most assignments with instructions as to the general results expected. Receives technical guidance on unusual or complex problems and supervisory approval on proposed plans for projects.

Typical duties and responsibilities. Conducts laboratory assignments requiring the determination and evaluation of alternative procedures and the sequence of performing them. Performs complex, exacting, unusual analytical assignments requiring specialized knowledge of

techniques or products. Interprets results, prepares reports, and may provide technical advice in specialized area.

Responsibility for the direction of others. May supervise a small staff of chemists and technicians.

Chemist V

General characteristics. Participates in planning laboratory programs on the basis of specialized knowledge of problems and methods and probable value of results. May serve as an expert in a narrow specialty (e.g., class of chemical compounds, or a class of products) making recommendations and conclusions which serve as the basis for undertaking or rejecting important projects. Development of the knowledge and expertise required for this level of work usually reflects progressive experience through chemist IV.

Direction received. Supervision and guidance relate largely to overall objectives, critical issues, new concepts, and policy matters. Consults with supervisor concerning unusual problems and developments.

Typical duties and responsibilities. One or both of the following: (1) In a supervisory capacity, plans, organizes, and directs assigned laboratory programs. Independently defines scope and critical elements of the projects and selects approaches to be taken. A substantial portion of the work supervised is comparable to that described for chemist IV. (2) As individual researcher or worker, carries out projects requiring development of new or highly modified scientific techniques and procedures, extensive knowledge of specialty, and knowledge of related scientific fields.

Responsibility for the direction of others. Supervises, coordinates, and reviews the work of a small staff of chemists and technicians engaged in varied research and development projects, or a larger group performing routine analytical work. Estimates personnel needs and schedules and assigns work to meet completion date. Or, as individual researcher or worker, may be assisted on projects by other chemists or technicians.

Chemist VI

General characteristics. Performs work requiring leadership and expert knowledge in a specialized field, product, or process. Formulates and conducts a systematic attack on a problem area of considerable scope and complexity which must be approached through a series of complete and conceptually related studies, or a number of projects of lesser scope. The problems are complex because they are difficult to define and require unconventional or novel approaches or have other difficult features. Maintains liaison with individuals and units

within and outside the organization, with responsibility for acting independently on technical matters pertaining to the field. Work at this level usually requires extensive progressive experience including work comparable to chemist V.

Direction received. Supervision received is essentially administrative, with assignments given in terms of broad general objectives and limits.

Typical duties and responsibilities. One or both of the following: (1) In a supervisory capacity (a) plans, develops, coordinates, and directs a number of large and important projects or a project of major scope and importance, or (b) is responsible for the entire chemical program of a company, when the program is of limited complexity and scope. Activities supervised are of such a scope that they require a few (3 to 5) subordinate supervisors or team leaders with at least one in a position comparable to level V. (2) As individual researcher or worker, determines, conceives, plans, and conducts projects of major importance to the company. Applies a high degree of originality and ingenuity in adapting, extending, and synthesizing existing theory, principles, and techniques into original combinations and configurations. May serve as a consultant to other chemists in specialty.

Responsibility for the direction of others. Plans, organizes, and supervises the work of a staff of chemists and technicians. Evaluates progress of the staff and results obtained, and recommends major changes to achieve overall objectives. Or, as individual worker or researcher, may be assisted on individual projects by other chemists or technicians.

Engineer

Performs professional work in research, development, design, testing, analysis, production, construction, maintenance, operation, planning, survey, estimating, application, or standardization of engineering facilities, systems, structures, processes, equipment devices, or materials requiring knowledge of the science and art by which materials, natural resources, and power are made useful. Work typically requires a B.S. degree in engineering or the equivalent in combined education and experience. (Excluded are: Safety engineers, industrial engineers, quality control engineers, sales engineers, and engineers whose primary responsibility is to be in charge of nonprofessional maintenance work.)

Engineers are classified into levels as follows:

Engineer I

General characteristics. This is the entry level of professional work requiring a bachelor's degree in engineering and no experience, or the equivalent of a de-

gree in appropriate education and experience. Performs assignments designed to develop professional work knowledge and abilities. May also receive formal classroom or seminar-type training. (Terminal positions are excluded.)

Direction received. Works under close supervision. Receives specific and detailed instructions as to required tasks and results expected. Work is checked during progress and is reviewed for accuracy upon completion.

Typical duties and responsibilities. Performs a variety of routine tasks that are planned to provide experience and familiarization with the engineering staff, methods, practices and programs of the company.

Responsibility for the direction of others. Usually none.

Engineer II

General characteristics. At this continuing developmental level, performs routine engineering work requiring application of standard techniques, procedures, and criteria in carrying out a sequence of related engineering tasks. Limited exercise of judgment is required on details of work and in making preliminary selections and adaptations of engineering alternatives. Requires work experience acquired in an entry level position or appropriate graduate level study. For training and developmental purposes, assignments may include some work that is typical of a higher level. (Terminal positions are excluded.)

Direction received. Supervisor screens assignments for unusual or difficult problems and selects techniques and procedures to be applied on nonroutine work. Receives close supervision on new aspects of assignments.

Typical duties and responsibilities. Using prescribed methods, performs specific and limited portions of a broader assignment of an experienced engineer. Applies standard practices and techniques in specific situations, adjusts and correlates data, recognizes discrepancies in results, and follows operations through a series of related, detailed steps or processes.

Responsibility for the direction of others. May be assisted by a few aids or technicians.

Engineer III

General characteristics. Independently evaluates, selects, and applies standard engineering techniques, procedures, and criteria, using judgment in making minor adaptations and modifications. Assignments have clear and specified objectives and require the investigation of a limited number of variables. Performance at this level requires developmental experience in a professional position or equivalent graduate level education.

Direction received. Receives instruction on specific assignment objectives, complex features, and possible solutions. Assistance is furnished on unusual problems and work is reviewed for application of sound professional judgment.

Typical duties and responsibilities. Performs work which involves conventional types of plans, investigations, surveys, structures, or equipment with relatively few complex features for which there are precedents. Assignments usually include one or more of the following: Equipment design and development, test of materials, preparation of specifications, process study, research investigations, report preparation, and other activities of limited scope requiring knowledge of principles and techniques commonly employed in the specific narrow area of assignments.

Responsibility for the direction of others. May supervise or coordinate the work of drafters, technicians, and others who assist in specific assignments.

Engineer IV

General characteristics. As a fully competent engineer in all conventional aspects of the subject matter or the functional area of the assignments, plans and conducts work requiring judgment in the independent evaluation, selection, and substantial adaptation and modification of standard techniques, procedures, and criteria. Devises new approaches to problems encountered. Requires sufficient professional experience to assure competence as a fully trained worker; or, for positions primarily of a research nature, completion of all requirements for a doctoral degree may be substituted for experience.

Direction received. Independently performs most assignments with instructions as to the general results expected. Receives technical guidance on unusual or complex problems and supervisory approval on proposed plans for projects.

Typical duties and responsibilities. Plans, schedules, conducts, or coordinates detailed phases of the engineering work in a part of a major project of moderate scope. Performs work which involves conventional engineering practices but may include a variety of complex features such as conflicting design requirements, unsuitability of standard materials, and difficult coordination requirements. Work requires a broad knowledge of precedents in the specialty area and a good knowledge of principles and practices of related specialties.

Responsibility for the direction of others. May supervise a few engineers or technicians on assigned work.

Engineer V

General characteristics. Applies intensive and diversified knowledge of engineering principles and practices in broad areas of assignments and related fields. Makes decisions independently on engineering problems and methods, and represents the organization in conferences to resolve important questions and to plan and coordinate work. Requires the use of advanced techniques and the modification and extension of theories, precepts, and practices of own field and related sciences and disciplines. The knowledge and expertise required for this level of work usually result from progressive experience, including work comparable to engineer IV.

Direction received. Supervision and guidance relate largely to overall objectives, critical issues, new concepts, and policy matters. Consults with supervisor concerning unusual problems and developments.

Typical duties and responsibilities. One or more of the following: (1) In a supervisory capacity plans, develops, coordinates, and directs a large and important engineering project or a number of small projects with many complex features. A substantial portion of the work supervised is comparable to that described for engineer IV. (2) As individual researcher or worker carries out complex or novel assignments requiring the development of new or improved techniques and procedures. Work is expected to result in the development of new or refined equipment, materials, processes, products, and/or scientific methods. (3) As staff specialist develops and evaluates plans and criteria for a variety of projects and activities to be carried out by others. Assesses the feasibility and soundness of proposed engineering evaluation tests, products, or equipment when necessary data are insufficient or confirmation by testing is advisable. Usually performs as a staff advisor and consultant on a technical specialty, a type of facility or equipment, or a program function.

Responsibility for the direction of others. Supervises, coordinates, and reviews the work of a small staff of engineers and technicians; estimates personnel needs and schedules and assigns work to meet completion date. Or, as individual researcher or staff specialist may be assisted on projects by other engineers or technicians.

Engineer VI

General characteristics. Has full technical responsibility for interpreting, organizing, executing, and coordinating assignments. Plans and develops engineering projects concerned with unique or controversial problems which have an important effect on major company programs. This involves exploration of subject area, defi-

inition of scope and selection of problems for investigation, and development of novel concepts and approaches. Maintains liaison with individuals and units within or outside the organization, with responsibility for acting independently on technical matters pertaining to own field. Work at this level usually requires extensive progressive experience including work comparable to engineer V.

Direction received. Supervision received is essentially administrative, with assignments given in terms of broad general objectives and limits.

Typical duties and responsibilities. One or more of the following: (1) In a supervisory capacity (a) plans, develops, coordinates, and directs a number of large and important projects or a project of major scope and importance; or (b) is responsible for the entire engineering program of a company when the program is of limited complexity and scope. Extent of responsibilities generally requires a few (3 to 5) subordinate supervisors or team leaders with at least one in a position comparable to level V. (2) As individual researcher or worker, conceives, plans, and conducts research in problem areas of considerable scope and complexity. The problems must be approached through a series of complete and conceptually related studies, are difficult to define, require unconventional or novel approaches, and require sophisticated research techniques. Available guides and precedents contain critical gaps, are only partially related to the problem, or may be largely lacking due to the novel character of the project. At this level, the individual researcher generally will have contributed inventions, new designs, or techniques which are of material significance in the solution of important problems. (3) As a staff specialist serves as the technical specialist for the organization (division or company) in the application of advanced theories, concepts, principles, and processes for an assigned area of responsibility (i.e., subject matter, function, type of facility or equipment, or product). Keeps abreast of new scientific methods and developments affecting the organization for purpose of recommending changes in emphasis of programs or new programs warranted by such developments.

Responsibility for the direction of others. Plans, organizes, and supervises the work of a staff of engineers and technicians. Evaluates progress of the staff and results obtained, and recommends major changes to achieve overall objectives. Or, as individual researcher or staff specialist may be assisted on individual projects by other engineers or technicians.

Science technician

(Scientific assistant; laboratory assistant)

Provides technical support to biologists and/or chem-

ists performing a variety of laboratory tasks. Among the duties that may be performed by technicians assisting biologists are gathering samples, preparing tissues for testing, and assisting in care of laboratory animals. Duties of technicians assisting chemists would include performing physical and chemical tests or analytical control work, and keeping records of test observations. Engineering technicians are *excluded*. Workers are classified into levels as follows:

Science technician I

This is an entry level position requiring little or no experience. Worker receives training in laboratory techniques, usually from higher level technicians. Performs standard laboratory tests and procedures and assists in more difficult ones. Work is reviewed closely for accuracy.

Science technician II

At this level, the technician is fully competent and capable of performing all the duties expected of a technician in the laboratory. Receives only general instructions and work is reviewed for technical adequacy. Work typically requires an associate degree, two years of college, or technical school education, or certification by a technical association.

Science technician III

At this senior level, the technician performs highly complex and nonroutine technical work requiring thorough knowledge of laboratory techniques and procedures. In addition, may train lower level technicians in more routine procedures. Some of the duties performed may overlap with entry level chemists or biologists; however, this is the terminal level of the technician category. Work typically requires formal post high school education, certification by a technical association, and experience as a lower level technician.

PRODUCTION AND RELATED OCCUPATIONS

Maintenance

Electrician I

Performs a variety of electrical trade functions such as the installation, maintenance, or repair of equipment for the generating, distribution, or utilization of electric energy in an establishment. Work involves *most of the following*: Installing or repairing any of a variety of electrical equipment such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layout, or other specifications; locating and diagnosing trouble

in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; using a variety of electricians's handtools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

Maintenance worker, general utility

Keeps the machines, mechanical equipment and/or structure of an establishment (usually a small plant where specialization in maintenance work is impractical) in repair. Duties involve the performance of operations and the use of tools and equipment of several trades, rather than specialization in one trade or one type of maintenance work only. However, workers who have the appropriate training and/or experience and perform the level of work of two or more journeymen maintenance crafts are excluded from the classification. Work involves *a combination of the following*: Planning and laying out of work relating to repair of buildings, machines, and mechanical equipment; repairing buildings, floors, and stairs, as well as making and repairing bins, cribs, and partitions.

Mechanic (machinery)

Repairs machinery or mechanical equipment of an establishment. Work involves *most of the following*: Examining machines and mechanical equipment to diagnose source of trouble; dismantling or partly dismantling machines and performing repairs that mainly involve the use of handtools in scraping and fitting parts; replacing broken or defective parts with items obtained from stock; ordering the production of a replacement part by a machine shop or sending the machine to a machine shop for major repairs; preparing written specifications for major repairs or for the production of parts ordered from a machine shop; reassembling machines; and making all necessary adjustments for operation. In general, the work of a maintenance mechanic (machinery) requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Excluded from this classification are workers whose *primary duties* involve setting up or adjusting machines.

Pipefitter

Installs or repairs water, steam, gas, or other types of pipe fittings in an establishment. Work involves *most of the following*: Laying out of work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct lengths with chisel and hammer or oxyacetylene torch or pipe-cutting machines; threading pipe with stocks and dies; bending pipe by handdriven or power-driver machines; assembling pipe with couplings and fastening

pipe to hangers; making standard shop computations relating to pressures, flow, and sizes of pipe required; making standard tests to determine whether finished pipes meet specifications. In general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. *Workers primarily engaged in installing and repairing building sanitation and heating systems are excluded.*

Processing

Ampule,-filling,-sealing; or washing-machine operator

Tends a machine or machines that steam wash ampules, fill ampules with drug products, or seal ampules preparatory to filling. Work includes *one or more of the following*: Starts machine; dumps empty ampules into hopper or places them in table of machine that automatically positions them for filling; seals ampules in steam washing machine; discards broken ampules after washing.

Chemical operator

(Pharmaceutical operator; sterile products processor)

Operates or tends one or more equipment units or a system performing intermediate or final operations which processes raw materials into chemical substances. This category includes worker who may be designated (within establishments) according to equipment controlled, material processed, or drug produced. It is intended to include operators of a specific type of equipment as well as those whose work involves a series of various types of equipment that may be centrally controlled through panel boards.

For wage study purposes, workers are classified as follows:

Class A—operates one or more types of equipment and whose job involves *most of the following*: Extensive knowledge of operating procedures, laboratory test results, and correlation of process instrumentation; ability to control the processing of all or most of the establishment's products; a high degree of responsibility for a product meeting rigid specifications or an expensive product where cost of waste or reworking is relatively high; and making decisions which affect yield and safety; and/or coordinates the work of several chemical operators working on a process comprising several types of equipment.

Class B—performs any of the specific duties of the class A operator but requires guidance in the interpretation of tests and observations, in setting and regulating controls, and in making out reports on operations. Work at this level is designed to develop the employee's capabilities for advancement to the class A level. May direct one or several helpers.

Chemical operator's helper

Performs a variety of simple and standard tasks assigned by a chemical operator. Work involves *most of the following*: Assisting in the moving, handling, dumping, and weighing of materials; loading equipment; taking simple recordings of temperature and pressure under the direction of chemical operators; cleaning work area; removing finished products from equipment; and cleaning or washing equipment.

Includes all helpers assigned to chemical operators, regardless of whether the operator is assigned to a specific type of apparatus or is engaged in controlling the operations of a series of equipment.

Coater

(Pill coater; tablet coater)

Operates one or a battery of machines that apply coatings to pharmaceuticals to flavor, color, preserve, add medication, or control disintegration time. Work includes *most of the following*: Places pharmaceuticals in pans prior to machine coating; pours enteric solution to control disintegration over pharmaceuticals prior to coating; loads machine with uncoated pharmaceuticals and additives; applies dusting powder to prevent sticking; examines product for defects; and measures and weighs product for conformance with specifications. May compound and mix coating, according to formula.

Compressor

Sets up and operates a machine to compress granulated ingredients into tablets of specific size and shape. Work includes *most of the following*: Installs punches and dies in machine and adjusts springs and hydraulic presses according to specifications; loads ingredients into hopper; examines tablets for imperfections; tests samples for conformance with product specifications or routes samples to laboratory for this purpose; and readjusts machine to insure conformity with specifications.

Encapsulating-machine operator

Operates a machine to fill hard shell capsules with drugs in powdered form. Work includes *most of the following*: Loads hopper with ingredients and sets turntable at appropriate speed; places ring on machine and operates vacuum apparatus to separate capsule tops from bodies; pushes ring down to close capsules after they are filled with powder; and places filled capsules in containers. May weigh capsules to assure machine is operating properly.

Granulating-machine operator

(Granulator; wet-mix operator)

Operates machine to granulate powdered ingredients preparatory to compressing into medicinal tablets. Work includes *most of the following*: Observes machine as it automatically weighs and measure ingredients;

starts machine; adds chemicals to grind ingredients; spreads mixture on trays; places trays in oven or steam drier; examines dried product for completeness; may screen granulated material to determine size of granules. May tend auxiliary equipment such as Ion-exchange or tumbling-barrel to refine granulated product.

Molder, machine

(Capsule molder)

Tends a machine that heats and transfers mixtures to conveyor molds to form drug and toilet products. Work includes *most of the following*: Sets up machine and starts conveyor; controls valves, agitator, and pump to cause product to be heated and poured into mold as it passes through the conveyor; removes damaged or defective molds and adjusts molder scraper to avoid overfilling or underfilling.

Production packager

(Cupping-machine operator; label- or wrapping-machine operator; table worker)

Performs one or more of the duties listed below. For wage study purposes, production packagers are classified as follows:

Hand—assembles packages or containers by hand and places products in them. Work involves *one or more of the following*: Cleans packages; lines crates; assembles cartons or packages from stock; wraps protective material such as plastic around product; regulates conveyor; inserts product into container; weighs container and adjusts quantity; visually inspects materials; and keeps simple records.

Machine—tends one or more machines that automatically fill containers or package products. Work involves *one or more of the following*: Starts machine and observes operation; stops machine to report malfunctions to supervisor; inspects filled containers; makes minor adjustments to machine; feeds product to conveyors or hoppers; replenishes packaging supplies; holds container in machine and presses button or pedal to seal package; keeps simple records.

Hand and machine—performs both of the functions listed above.

Miscellaneous

Janitor, porter, or cleaner

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, apartment house, or commercial or other establishment. Duties involve a *combination of the following*: Sweeping, mopping or scrubbing, and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing supplies and minor maintenance services; cleaning lavatories, showers, and restrooms. Workers who specialize in window washing are excluded.

Power-truck operator

Operates a manually controlled gasoline-or electric-powered truck or tractor to transport goods and materials of all kinds about a warehouse, manufacturing plant, or other establishment.

For wage study purposes, workers are classified by type of power-truck as follows:

Forklift operator

Power-truck operator (other than forklift)

Shipper and Receiver

Performs *clerical and physical* tasks in connection with shipping goods of the establishment in which employed and receiving incoming shipments. In performing day-to-day, routine tasks, follows established guidelines. In handling unusual, nonroutine problems, receives specific guidance from supervisor or other officials. May direct and coordinate the activities of other workers engaged in handling goods to be shipped or received.

Shippers typically are responsible for most of the following: Verifying that orders are accurately filled by comparing items and quantities of goods gathered for shipment against documents; insuring that shipments are properly packaged, identified with shipping information, and loaded onto transporting vehicles; and preparing and keeping records of goods shipped, e.g., manifests and bills of lading.

Receivers typically are responsible for most of the following: Verifying the correctness of incoming shipments by comparing items and quantities unloaded against bills of lading, invoices, manifests, storage receipts, or other records; checking for damaged goods; ensuring that goods are appropriately identified for routing to departments within the establishment; and preparing and keeping records of goods received.

For wage study purposes, workers are classified as follows:

Shipper

Receiver

Shipper and receiver

Industry Wage Studies

The most recent reports providing occupational wage data for industries included in the Bureau's program of industry wage surveys are listed below. Copies are for sale from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or from any of its regional sales offices, and from the regional offices of the Bureau of Labor Statistics shown on the inside back cover. Bulletins that are out of stock are available for reference at leading public, college, or university libraries, or at the Bureau's Washington or regional offices.

Manufacturing

Basic Iron and Steel, 1978-79. BLS Bulletin 2064
Candy and Other Confectionery Products, 1975. BLS Bulletin 1939
Cigar Manufacturing, 1972. BLS Bulletin 1796
Cigarette Manufacturing, 1976. BLS Bulletin 1944
Corrugated and Solid Fiber Boxes, 1976. BLS Bulletin 1921
Drug Manufacturing, September 1978. BLS Bulletin 2077
Fabricated Structural Steel, 1974. BLS Bulletin 1935
Fertilizer Manufacturing, 1971. BLS Bulletin 1763
Flour and Other Grain Mill Products, 1977. BLS Bulletin 2026
Fluid Milk Industry, 1973. BLS Bulletin 1871
Footwear, 1975. BLS Bulletin 1946
Hosiery, 1976. BLS Bulletin 1987
Industrial Chemicals, 1976. BLS Bulletin 1978
Iron and Steel Foundries, 1973. BLS Bulletin 1894
Leather Tanning and Finishing, 1973. BLS Bulletin 1835
Machinery Manufacturing, 1978. BLS Bulletin 2022
Meat Products, 1979. BLS Bulletin 2082
Men's Shirts and Separate Trousers, 1978. BLS Bulletin 2035
Men's and Boys' Suits and Coats, April 1979. BLS Bulletin 2073
Miscellaneous Plastics Products, 1974. BLS Bulletin 1914
Motor Vehicles and Parts, 1973-74, BLS Bulletin 1912
Nonferrous Foundries, 1975. BLS Bulletin 1952
Paints and Varnishes, 1976. BLS Bulletin 1973
Paperboard Containers and Boxes, 1970. BLS Bulletin 1719¹
Petroleum Refining, 1976. BLS Bulletin 1948

Pressed or Blown Glass and Glassware, 1975. BLS Bulletin 1923
Pulp, Paper, and Paperboard Mills, 1977. BLS Bulletin 2008
Semiconductors, 1977. BLS Bulletin 2021
Shipbuilding and Repairing, 1976. BLS Bulletin 1968
Southern Sawmills and Planing Mills, 1969. BLS Bulletin 1694¹
Structural Clay Products, 1975. BLS Bulletin 1942
Synthetic Fibers, 1976. BLS Bulletin 1975
Textile Dyeing and Finishing, 1976. BLS Bulletin 1967
Textiles, 1975. BLS Bulletin 1945
Wages and Demographic Characteristics in Work Clothing Manufacturing, 1972. BLS Bulletin 1858
West Coast Sawmilling, 1969. BLS Bulletin 1704¹
Women's and Misses' Coats and Suits, 1970. BLS Bulletin 1728¹
Women's and Misses' Dresses, 1977. BLS Bulletin 2007
Wood Household Furniture, Except Upholstered, 1974. BLS Bulletin 1930

Nonmanufacturing

Appliance Repair Shops, 1978. BLS Bulletin 2067
Auto Dealer Repair Shops, 1978. BLS Bulletin 2060
Banking and Life Insurance, 1976. BLS Bulletin 1988
Bituminous Coal Mining, 1976. BLS Bulletin 1999
Communications, 1978. BLS Bulletin 2071
Computer and Data Processing Services, 1978. BLS Bulletin 2028
Contract Cleaning Services, 1977. BLS Bulletin 2009
Contract Construction, 1973. BLS Bulletin 1911
Department Stores, 1977. BLS Bulletin 2006
Educational Institutions: Nonteaching Employees, 1968-69. BLS Bulletin 1971¹
Electric and Gas Utilities, 1979. BLS Bulletin 2040
Hospitals and Nursing Homes, 1975. BLS Bulletin 2069
Hotels and Motels, 1978. BLS Bulletin 2055
Laundry and Cleaning Services, 1968. BLS Bulletin 1645¹
Metal Mining, 1977. BLS Bulletin 2017
Motion Picture Theatres, 1966. BLS Bulletin 1521¹
Oil and Gas Extraction, 1977. BLS Bulletin 2014
Scheduled Airlines, 1975. BLS Bulletin 1951
Wages and Tips in Restaurants and Hotels, 1970. BLS Bulletin 1712¹

¹Bulletin out of stock

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Consumer Price Index data now are available by mailgram within 24 hours of the CPI release. The new service is being offered by the Bureau of Labor Statistics through the National Technical Information Service of the U.S. Department of Commerce.

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for the All Urban Consumers (CPI-U) and for the Urban Wage Earners and Clerical Workers (CPI-W) indexes as shown on the CPI-U sample page below. The unadjusted data include the current month's index and the percent changes from 12 months ago and one month ago. The seasonally adjusted data are the percent changes from one month ago.

CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS (CPI-U): U.S. CITY AVERAGE (1967=100)				
GROUP	UNADJ INDEX MAY 1979	UNADJUSTED PER CHG FROM 12 MO AGO	5 ADJ PER CHG FROM 1 MO AGO	5 ADJ PER CHG FROM 1 MO AGO
ALL ITEMS	214.1	10.8	1.2	1.1
ALL ITEMS (1957-59=100)	249.0	-	-	-
FOOD AND BEVERAGES	228.2	11.2	.8	.7
FOOD	234.3	11.4	.9	.7
FOOD AT HOME	233.4	11.3	.7	.5
CEREALS AND BAKERY PRODUCTS	216.2	9.5	.8	1.0
MEATS, POULTRY, FISH, AND EGGS	242.2	19.4	.9	.1
DAIRY PRODUCTS	203.8	11.1	.7	.8
FRUITS AND VEGETABLES	226.8	3.4	.1	-.2
FOOD AWAY FROM HOME	241.1	11.7	1.1	1.1
HOUSING	222.4	11.3	1.2	1.2
RENT, RESIDENTIAL	173.8	6.8	1.0	1.0
HOMEOWNERSHIP	254.9	14.6	1.3	1.3
FUEL AND OTHER UTILITIES	232.2	7.7	2.1	2.2
FUEL OIL, COAL, AND BOTTLED GAS	364.3	23.2	4.1	4.8
GAS (PIPED) AND ELECTRICITY	251.6	8.2	2.6	2.6
HOUSEHOLD FURNISHINGS AND OPERATION	189.2	7.5	.3	.4
APPAREL AND UPKEEP	166.1	3.9	.4	.0
TRANSPORTATION	207.7	13.4	2.4	1.8
NEW CARS	165.8	8.7	.9	1.1
USED CARS	205.4	11.3	2.7	-.5
GASOLINE	247.7	29.1	5.5	5.0
PUBLIC TRANSPORTATION	193.3	3.1	.4	.7
MEDICAL CARE	236.3	8.9	.5	.6
MEDICAL CARE SERVICES	254.4	9.4	.5	.6
ENTERTAINMENT	187.8	6.6	.7	.5
OTHER GOODS AND SERVICES	193.9	7.5	.4	.5
PERSONAL CARE 1/	193.9	7.5	.6	.6
COMMODITIES	205.8	10.9	1.2	.9
COMMODITIES LESS FOOD AND BEVERAGES	192.9	10.9	1.5	1.0
NONDURABLES LESS FOOD AND BEVERAGES	195.7	12.0	2.0	1.9
DURABLES	189.2	10.0	1.1	.5
SERVICES	229.5	10.3	1.1	1.3
ALL ITEMS LESS FOOD	203.9	10.5	1.3	1.2
ENERGY 1/	260.8	19.8	4.2	4.2
ALL ITEMS LESS FOOD AND ENERGY	204.1	9.5	.9	.9

1/ NOT SEASONALLY ADJUSTED

ORDER FROM: National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161

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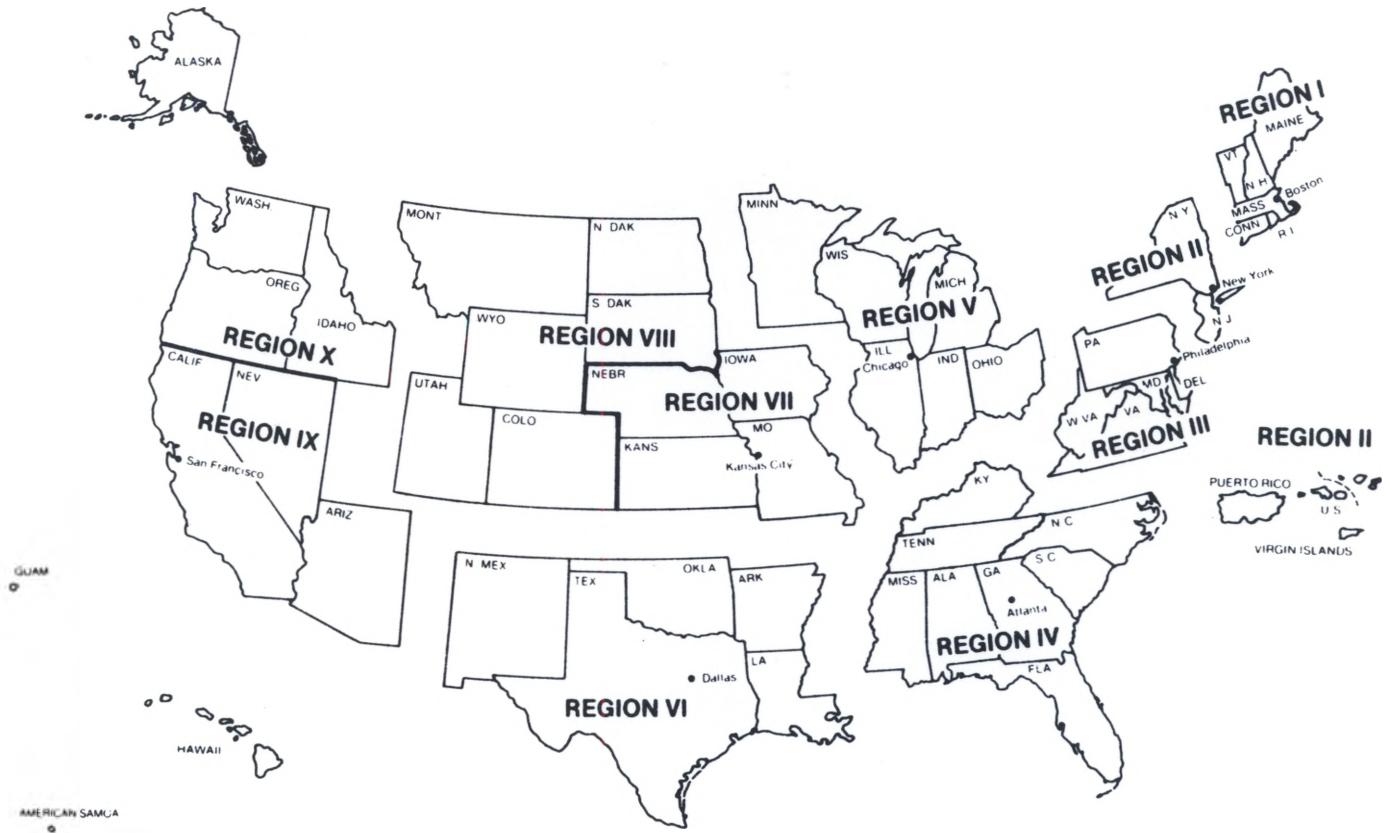
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