SALARIES 1996

ANALYSIS OF THE AMERICAN CHEMICAL SOCIETY'S 1996 COMPREHENSIVE SALARY AND EMPLOYMENT STATUS SURVEY

AMERICAN CHEMICAL SOCIETY
COMMITTEE ON ECONOMIC AND PROFESSIONAL AFFAIRS
DEPARTMENT OF CAREER SERVICES

SALARIES 1996

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American Chemical Society
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ACKNOWLEDGMENTS

This report presents abbreviated results of the 1996 ACS Comprehensive Salary and Employment Status Survey. A summary of the survey the preliminary findings was published in the July 29, 1996 issue of *Chemical & Engineering News*.

The ACS Council Committee on Economic and Professional Affairs, chaired by James D. Burke, and its Subcommittee on Surveys, chaired by James Visintainer, planned and provided general oversight of the survey and its analysis in 1996. The committee expresses its gratitude to the approximately 10,000 respondents who provided a valuable service to the profession by completing the survey questionnaire.

Mary Jordan, Senior Research Analyst, conducted this year's survey and wrote the following summary.

Mary L. Funke, Head
Department of Career Services

The American Chemical Society's 1996 Comprehensive Salary and Employment Status Survey was conducted on an incomplete sample drawn from the membership database. The sample was inconsistent with the membership by significantly fewer from the Pacific Region, a larger proportion employed in industry, and a younger age concentration. Extensive cleaning of the data still resulted in data with a lower confidence level than in past surveys. Thus, *Salaries 96* is an abbreviated version of the annual report.[1]

Measures have been taken to assure the quality of the sample in future years. The full report will resume in July 1997 with the completion of the 1997 survey.

SUMMARY AND COMMENT

Data from the 1996 survey displayed few signals for any stabilizing of employment in the chemistry profession. Salaries of most full-time categories increased over last year, but lagged behind the inflation rate. Individuals who have remained with an employer for more than a year showed favorable increases in salary. Much of this disparity between lack of overall salary increases and growth of individual salaries, is due to the rapid and significant increases in the a) proportion of chemists experiencing unemployment between 1995 and 1996 and b) those reporting some period of unemployment during 1995.

SALARIES[2]

Median incomes increased in current dollars between 1995 and 1996 for most chemists and all chemical engineers employed full-time. Chemical engineers at all degree levels gained income increases either even with or exceeding the rate of inflation. Chemists, on the other hand, showed little overall improvement. They fell behind the rate of inflation at the bachelor's and master's levels. Chemists at the doctorate level gained salary increases that essentially stayed even with the inflation rate.

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1. The tables supplied with this edition are those that account for age- or experience-specific rates with "years since BS", and rank for academics. It is suggested that the reader use those "years since BS" and rank categories for higher confidence level in the data supplied.

2. For salaries overall, the younger age difference somewhat offsets the increased industrial representativeness. For salaries also, the regional difference is not as significant in this instance, as the Pacific Region generally closely follows the national medians. Thus, the overall salaries are from younger respondents, but at the same time a sample from a more industry-employed group than usual.

Chemists

The rate of increase or decrease in median salary for chemists varied with the highest degree held. Bachelor chemists fell behind their 1995 level and decreased substantially from 1995 when calculated with the rate of inflation. Those chemists with master's degrees slightly gained in current dollars, but failed to keep pace with the rate of inflation. Chemists with doctorate degrees fared best of the chemists, but their increase scarcely outpaced the rate of inflation. As of March 1, 1996, median salaries for chemists were:

Degree	*Median Salary*	*Change from 1995 (current dollars)*	*Change from 1995[3] (constant dollars)*
Bachelor's	45,000	down 1.6%	down 3.4%
Master's	53,600	up 0.2%	down 2.6%
Doctorate	68,000	up 3.0%	up 0.2%

Chemical Engineers

For chemical engineers employed full-time, all degree-holders at least kept pace with inflation. Chemical engineers with bachelor's and master's degrees gained salary increases that showed considerable improvement in gains of constant dollar terms also. Median salaries for chemical engineers were:

Degree	*Median Salary*	*Change from 1995 (current dollars)*	*Change from 1995 (constant dollars)*
Bachelor's	58,800	up 5.9%	up 3.1%
Master's	69,400	up 4.2%	up 1.4%
Doctorate	76,100	up 2.8%	even

Academic Chemists

The greatest influences on academic salaries are academic rank, length of contract, school type and work function. Academic salaries are generally higher for full professors, those working in public institutions, those working in departments granting PhDs, and those in research.

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3. The adjustment for inflation used the CPI-U, Consumer Price Index-Urban, which increased 2.8 percent from March 1995 to March 1996. The CPI-U serves as an approximation for national inflation.

Full professors gained salary increases in current dollars, but those with 9/10 month contracts did not increase in constant dollars. In 1996, the news was poor for associate professors. Both groups of associate professors, those with 9/10 month contracts and those with 11/12 month contracts lost ground to inflation. On the other hand, the previous year, salary increases were greatest for those at the rank of associate professor. The assistant professors fared the best of the academics in 1996. Salaries for assistant professors increased substantially from 1995 to 1996. Their increase was notably greater than the rate of inflation.

Rank/Contract	***Median Salary***	***Change from 1995 (current dollars)***	***Change from 1995 (constant dollars)***
Full 9/10	62,000	up 2.1%	down 0.7%
Full 11/12	89,350	up 5.0%	up 2.2%
Assoc 9/10	45,000	even	down 2.8%
Assoc 11/12	60,000	down 1.6%	down 4.4%
Asst 9/10	38,480	up 13.2%	up 10.4%
Asst 11/12	50,000	up. 7.3%	up 4.5%

Trends in Chemists' Salaries

For the past ten years, as shown in Figures 1 and 2, salaries for chemists have generally grown in current dollars and constant dollars for the PhD. Chemists with masters and bachelors degrees rose more gradually until 1996, when the masters' salaries leveled and bachelor chemists lost ground in current salary dollars.

Figure 2 shows chemists salary trends in 1984 constant dollars. After an initial drop in the late-1980s in constant dollar salaries, chemists with doctorates regained their initial loss and have steadily gained in salaries, albeit smaller gains since 1994. The chemists with masters regained their initial late-1980 constant dollar loss and gained until 1992. As stated earlier, this year they fell farther behind inflation for the second straight year. The bachelor chemists salaries barely regained constant dollar losses of the 1980s and have also fallen behind in constant dollar gains for several years.

Figure 1

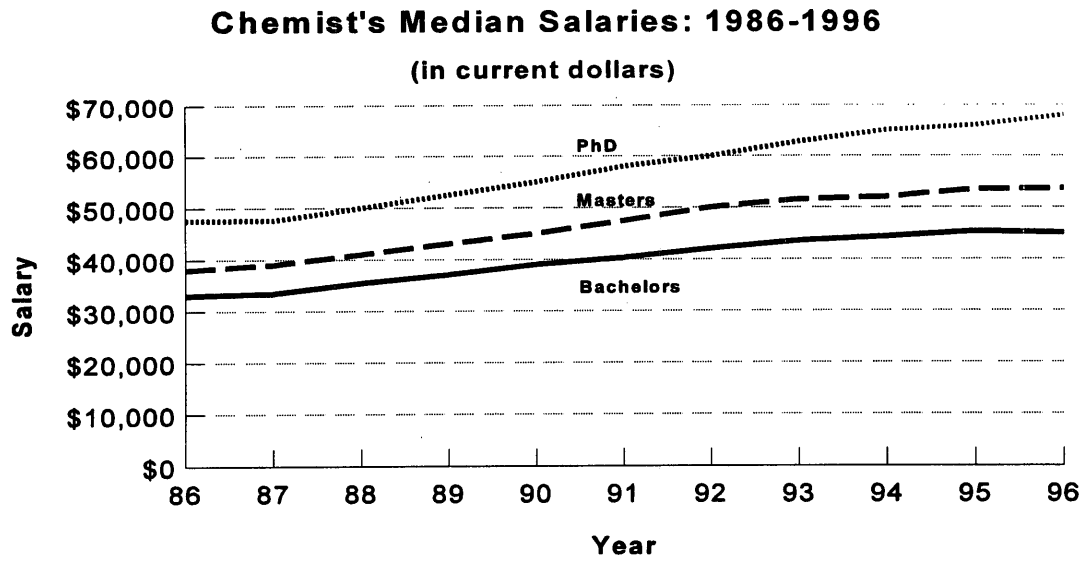
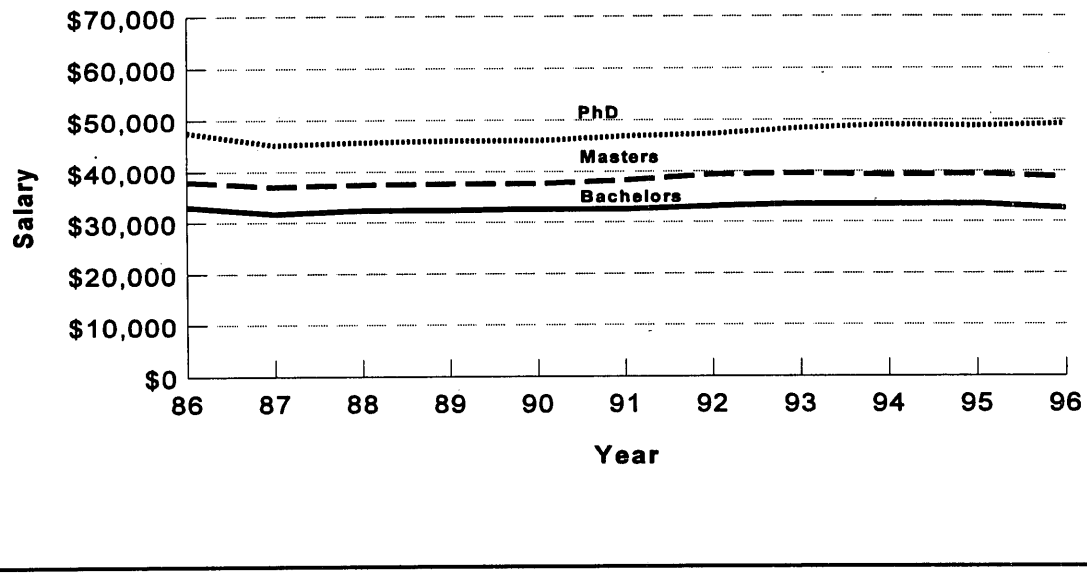


Figure 2



Other Sources of Income

Consulting was a source of income for over 17 percent of the survey's respondents, down from over 18 percent in 1995. Two-thirds of those who said they consulted, did so less than 10 percent of their time per month. Only seven percent of all those who consulted said they consulted full-time. The majority of chemists with more than 15 years since their BS degrees and who consulted had median hourly rates of $50 to $100, depending on highest degree earned. PhDs with more than 15 years since their BS degrees tended to earn a median hourly rate of more than $100 per hour.

About a third of all respondents received bonuses. The majority of those who received bonuses worked in industry. Over half of the industrial chemists reported receiving a bonus in the past year. The median amount of bonuses reported by industrial chemists was $4,000, up from $3,000 the prior year. Industrial bonuses were closely tied to the size of the company, with larger companies giving higher bonuses, but smaller companies giving proportionately more bonuses.

Individual Chemists' Salaries

Overall salaries for chemists may be stagnant or falling, but individual chemists who worked for the same employer for more than one year showed healthy gains in 1996. All analyzed groups of chemists who received raises in the past year showed median salary increases exceeding the inflation factor. Chemists in industry posted the highest raises with and overall median raise of 4.8 percent, followed by an overall four percent raise in academia and a 3.5 percent for government chemists.

Chemists between the ages of 20 and 29 garnered higher salary increases than any other age group with an overall median increase of 6.8 percent. For each group, chemists with bachelor degrees gained larger proportional raises in 1995 to 1996 than did chemists with graduate degrees.

Seemingly contradictory occurrences, such as higher individual salaries and lower overall salaries can have several explanations. One of those is with the methodology of using median salaries as the descriptor, where essentially two differing groups are compared by median. Other explanations are found in the higher movement of chemists between jobs and where new jobs are being created in the industry, as reported in the Employment and Unemployment Section of this report. Also, and with greater frequency, chemists are changing employment and finding jobs in smaller companies that generally pay less than larger companies.

EMPLOYMENT AND UNEMPLOYMENT[4]

The Industry

At the end of 1995 and through 1996, the U.S. Bureau of Labor Statistics (BLS) has released a series of reports[5] estimating employment through the year 2005 by occupation and by industry. In addition, The National Science Board's *Science & Engineering Indicators 1996* published results from an economic model of the supply side of the science workforce through the year 2005. From these two sources, the overall outlook for continued growth in jobs for chemists is favorable, barring any unexpected labor market downturns or changes.

The chemist occupation is expected to grow in both the chemical manufacturing, by 23.3 percent, and drug industries, by 13.5 percent. This growth is above and beyond replacement. Within the chemical and related industries, the new job opportunities are expected to be greatest in the pharmaceutical and biotechnology firms. *Forbes* magazine estimated this past year that over 60 percent of new jobs will continue to be created in very small firms, most of which have fewer than 100 employees. New employment opportunities for science technicians and chemical engineers are also expected to increase, but at more moderate rates.

Concurrent with new jobs for chemists, overall employment in the chemistry industry is expected to continue to decline by four percent during the period from 1994 to 2005. The loss of jobs in the chemical industry is expected in the areas of production, administration, general management, and production management occupations. Thus, for chemists in any of those occupations, the outlook is less optimistic and employment will continue to decline into the next century.

Employment Statuses

The employment statuses on March 1, 1996 for most of the respondents are presented in Table 1. The unemployment rate for chemical engineers seeking employment declined for the third year in a row, from a peak of 3.5 percent in 1993 to 2.3 percent in 1996. The 2.9 percent unemployment rate for chemists seeking employment rose to levels last seen in the

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4. Overall 1996 employment statuses other than full-time may be slightly overstated for the ACS membership in general. This is because, traditionally, younger chemists and chemists employed in industry tend to have higher rates of employment in statuses other than full-time employment.

5. Relevant publications from the U.S. Bureau of Labor Statistics and National Science Foundation are listed at the end of this report with Information Sources.

Table 1

Employment Status by Work Specialty: 1994-1996

Status	*Chemical Engineering*			*Chemistry*		
	1994	1995	1996	1994	1995	1996
Full-time	91.7%	90.3%	90.7%	90.1%	88.8%	89.3%
Part-time	2.3%	2.4%	3.0%	2.5%	2.7%	2.7%
Postdoc & fellowship	0.4%	1.1%	0.8%	2.9%	3.5%	2.7%
Unemployed & seeking	3.1%	2.9%	2.3%	2.6%	2.5%	2.9%
Not seeking employment	2.5%	3.2%	3.2%	2.0%	2.6%	2.3%
Total number in category	557	2,703	473	8,838	45,314	8787

1970s. However, the percentage of those employed full-time for both chemists and chemical engineers rebounded with a slight increase after continuing declines in 1995. The full-time rate for chemical engineers declined by more than one percentage point between 1994 and 1995.

Chemists employed part-time continued as 2.7 percent in 1996. Those in postdocs or fellowships decreased to near-1994 levels, from 2.9 percent in 1994 to 3.5 percent in 1995 and then to 2.7 percent this year. Finally, 2.3 percent of the chemists were not seeking employment in 1996.

Unemployment Trends for Chemists and Chemical Engineers

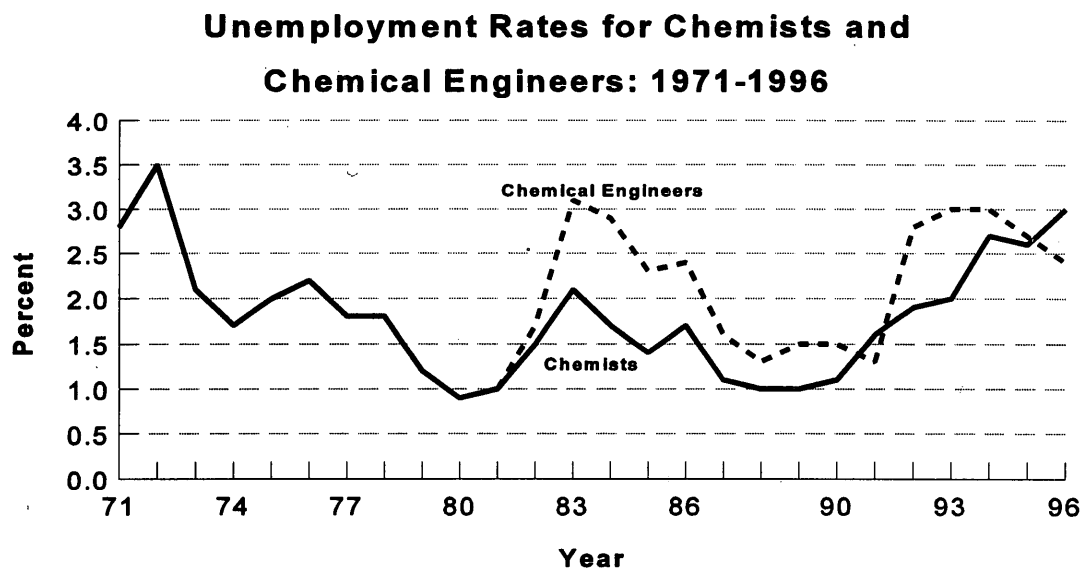
Figure 3 shows the unemployment trends for chemists and chemical engineers. Generally, chemical engineers maintain higher unemployment rates. This year the data showed the unemployment rates for chemical engineers falling below that of chemists for the second time in 15 years. In addition, the trends for chemists shows an upward tendency for almost a decade, rivaling that of the late 1960s and early 1970s.

Although the sharp increase in unemployment for chemists was partially a result of the younger age and industrial bias of this year's sample, the recent and relatively high unemployment of ACS members follows a trend that has been developing during the 1990s for members. This also follows the national trend of higher unemployment amongst all professionals, especially for those like chemists who have had traditionally low

unemployment. More telling for chemists is the upward trend in the numbers and proportions of chemists who are unemployed during the previous year.

Chemists	***1991***	***1992***	***1993***	***1994***	***1995***	***1996***
Unemployment Rate[6]	1.6%	1.9%	2.0%	2.1%	2.7%	3.0%
Any Unemployment in the Past Year[7]	3.1%	4.3%	4.0%	5.4%	6.8%	7.5%

Figure 3



6. Since the early 1990s, the BLS has dropped those unemployed and not seeking from the labor force. Prior to the late 1980s, the not seeking group was so small that they did not statistically affect the unemployment rate.

7. A question on the survey asks for those who are unemployed and seeking work. It does not ask how many changed jobs in the past year. The number who actually change jobs in the past year is a combination of those who experienced unemployment, plus those who go to another job/employer without any period of unemployment.

The rising unemployment rate for the past year indicates the growing volatility of employment for chemists. The unemployment rate for one particular day masks the much larger proportion of chemists who experienced unemployment sometime during the previous year. While the unemployment rate for chemists has risen, the total annual proportion of unemployed chemists has risen by a factor of two or more.

Indeed, even for chemists who were fully employed on March 1, 1996, over five percent had some period of unemployment in the previous year, 1995. This points out the seeming anomaly of job growth, partnered with higher unemployment and increased movement between jobs.

TECHNICAL NOTES

The Sample

Traditionally, the target population of the ACS Comprehensive Salary and Employment Status Survey is those ACS members who had mailing addresses in the U.S. and had neither student, retired, nor emeritus membership status. This year, the sample contained a general sample from the membership database that included any person on that database. The survey questionnaires were mailed to 20,000 by bulk mail on February 23, 1996. A follow-up mailing was sent to nonrespondents on March 23. By the May 19 cut-off date, over 10,500 usable questionnaires (54 percent of the original mailing) had been returned. By the time the data were returned, the weakness of the sample was apparent and steps were taken to "clean" the data by examining and comparing every respondent with his or her membership status. This was done by the assigned identification number, not by name or any other personal information. At all times the identification of the respondent is kept confidential.

Definitions

For the purposes of the survey analysis, the following definitions were used:

Chemist: A respondent who indicated a work specialty of chemistry or biochemistry (categories 2 through 15 of Part 1, Question 3 of the questionnaire) or, if a non-chemistry work specialty (categories 16 through 19 of the same question), a degree field of chemistry or biochemistry.

Chemical Engineer: A respondent who indicated a work specialty (category 1 of Part 1, Question 3 of the questionnaire) .

Nonchemist: A respondent whose category is other than chemistry or chemical engineering, as above.

Academic: Pertaining to a college or university, i.e., a private or public institution that awards a degree of associate or higher.

Unemployed: A respondent who was not employed and was seeking employment (category 4 of Part 1, Question 4 of the questionnaire). The unemployment rate calculated to compare with the national rate, drops those not seeking from the labor force.

Respondents indicated their employment status, base annual salaries, and ages as of March 1, 1996.

Discrepancies Among Tables

Some pairs of tables contain totals that should be identical but are not. For example, two tables that represent information about PhD respondents should show the same total number of PhDs. However, they might show different totals. This phenomenon is generally caused by missing response items in a survey. Not every respondent answers all questions all of the time. To illustrate, if one table groups the PhDs according to specialty and the other groups them according to work function, the totals will differ unless the number who did not indicate their specialty is the same number (or person even) that did not indicate their work function.

Comparing Salaries

Questions arise frequently about salary comparisons, such as between degrees, or men and women. All such comparisons require caution. The salaries here represent the medians and means of ACS members. Most of the statistics in this report are descriptive in nature, not analytical.

Tests of significance should be performed on any salary discrepancies to see whether the observed salary differences between groups are mere chance resulting from some peculiarity of the sample itself. The significance of a difference between subpopulations depends on multiple factors. These factors include, among other things, the magnitude of the difference within the sample and between sample groups, and sample size.

Nonresponse Bias

One source of sample error may arise from a response bias. Members who respond may be different than members who do not respond. Past comparisons of ACS membership record showed no bias in terms of age, sex, employer, or geographic region. In addition, a telephone follow-up of 388 nonresponders to the 1991 survey showed the nonresponders' salaries were virtually the same as the responders. The mean salary for the responders was $57,007; for nonresponders it was $57,982. A t-test of the difference between the mean salaries of the two groups resulted in no significant difference between the means (Student's t was only 0.57). The percent in both groups that were unemployed was also the same -- 1.6%.

LIST OF TABLES

Salaries on March 1, 1996

Table 1.1.1

SALARIES of BS CHEMISTS employed FULL-TIME
by EMPLOYER TYPE and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
Industry						
Total	1585	51,082	31,662	35,000	45,600	60,000
0-1	76	33,472	36,266	24,000	29,570	34,943
2-4	263	33,333	26,188	26,250	31,308	36,000
5-9	282	39,915	8,831	33,800	39,380	45,000
10-14	247	50,454	40,720	41,100	47,000	55,000
15-19	216	57,205	15,284	47,190	56,275	65,204
20-24	180	58,447	34,166	44,650	54,425	67,000
25-29	118	69,598	28,551	53,000	64,500	79,040
30-34	95	67,816	19,623	55,000	65,000	80,000
35-39	60	78,629	38,508	54,430	65,830	92,500
40 or more	48	76,813	45,566	53,250	66,420	86,500
Government						
Total	142	46,494	15,390	35,007	45,675	57,500
5-9	20	38,686	9,288	30,600	37,896	47,069
10-14	21	38,935	12,190	32,000	36,171	45,154
15-19	28	49,095	15,212	38,439	47,358	59,958
20-24	19	48,874	13,391	38,090	48,326	56,000
25-29	20	57,179	13,255	43,906	58,000	64,939
Other Nonacademic						
Total	77	47,349	23,584	28,008	43,335	62,500
10-14	15	42,049	14,531	33,000	42,000	50,600
High School						
Total	23	28,901	9,366	24,000	28,000	30,000
College or University						
Total	82	32,445	17,788	20,000	29,070	40,000
2-4	20	20,093	7,479	13,485	17,650	25,500
5-9	16	26,635	11,307	17,461	26,920	30,600

Note: Categories with fewer than 15 cases are not shown.

Table 1.1.2

SALARIES of MS CHEMISTS employed FULL-TIME
by EMPLOYER TYPE and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
Industry						
Total	858	62,476	37,020	46,800	57,328	70,620
2-4	26	34,506	7,311	26,888	34,750	40,901
5-9	111	45,964	39,004	38,500	42,387	49,000
10-14	147	50,756	11,100	44,600	50,000	56,971
15-19	147	59,201	14,341	48,300	58,510	66,500
20-24	150	66,011	17,846	55,000	63,930	76,000
25-29	124	77,816	71,807	58,250	67,253	80,000
30-34	90	76,284	32,127	60,000	72,000	84,250
35-39	39	80,928	31,606	62,600	72,000	97,200
40 or more	24	77,866	17,134	67,750	77,400	88,000
Government						
Total	96	51,837	13,562	43,015	51,539	59,430
15-19	17	52,902	11,371	44,668	53,500	60,500
20-24	18	52,071	11,088	43,750	52,683	58,276
25-29	18	56,258	9,998	50,966	54,164	62,000
Other Nonacademic						
Total	67	57,360	33,562	35,000	55,000	71,000
30-34	17	80,685	49,338	42,000	69,200	110,000
High School						
Total	67	45,293	14,329	33,000	44,000	56,000
25-29	16	48,828	14,470	40,776	48,915	57,643
30-34	15	48,593	16,209	36,500	45,000	57,540
College or University						
Total	103	39,203	13,542	30,000	38,530	50,029
25-29	18	42,576	14,544	31,000	38,829	53,102
30-34	21	42,884	13,292	34,000	44,042	52,957

Note: Categories with fewer than 15 cases are not shown.

Table 1.1.3

SALARIES of PhD CHEMISTS employed FULL-TIME
by EMPLOYER TYPE and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
Industry						
Total	2224	82,146	39,046	63,300	75,000	91,000
5-9	117	56,921	8,360	53,000	58,000	61,800
10-14	462	66,087	34,250	58,000	63,081	69,700
15-19	415	74,593	16,172	65,000	73,000	83,000
20-24	343	84,955	38,903	70,519	80,200	92,000
25-29	323	96,054	56,419	74,000	89,000	102,000
30-34	323	98,587	39,254	77,580	91,925	110,000
35-39	144	94,220	35,784	70,160	91,150	106,000
40 or more	97	92,460	33,700	72,000	88,000	103,881
Government						
Total	299	71,146	19,834	57,747	68,729	84,000
10-14	39	55,276	10,072	48,491	53,950	64,000
15-19	36	59,269	12,506	54,332	61,000	66,000
20-24	38	76,208	14,170	65,000	76,008	84,000
25-29	43	71,407	15,042	59,473	73,261	84,000
30-34	66	78,938	19,984	63,442	75,965	95,000
35-39	39	77,730	18,167	64,000	75,000	87,360
40 or more	26	87,057	22,605	61,679	93,221	98,500
Other Nonacademic						
Total	146	84,040	57,306	52,000	69,850	94,536
10-14	15	49,501	14,973	40,000	50,250	60,000
15-19	22	65,168	26,516	50,890	63,500	73,000
20-24	19	67,826	25,180	53,494	68,952	81,600
25-29	21	79,383	51,565	59,100	70,000	78,000
30-34	33	99,964	56,917	65,000	92,000	112,260
35-39	19	80,995	36,159	50,000	67,000	100,000
High School						
Total	16	44,089	11,578	36,850	42,500	50,000
College or University						
Total	1406	61,225	42,842	40,500	52,600	70,100
5-9	89	35,634	9,251	30,000	35,000	40,600
10-14	213	44,450	46,380	33,895	38,000	45,495
15-19	171	54,688	58,486	40,000	45,690	53,000
20-24	140	56,987	22,965	41,062	51,150	64,400
25-29	187	66,179	50,903	45,000	56,400	77,000
30-34	255	70,219	44,034	49,350	61,200	79,277
35-39	217	70,770	26,424	52,919	66,104	82,000
40 or more	134	78,170	30,496	60,000	72,000	92,500

Note: Categories with fewer than 15 cases are not shown.

Table 2.1.1

SALARIES of INDUSTRIAL CHEMISTS employed FULL-TIME
by DEGREE and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
BS						
Total	1585	51,082	31,662	35,000	45,600	60,000
0-1	76	33,472	36,266	24,000	29,570	34,943
2-4	263	33,333	26,188	26,250	31,308	36,000
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30-34	95	67,816	19,623	55,000	65,000	80,000
35-39	60	78,629	38,508	54,430	65,830	92,500
40 or more	48	76,813	45,566	53,250	66,420	86,500
MS						
Total	858	62,476	37,020	46,800	57,328	70,620
2-4	26	34,506	7,311	26,888	34,750	40,901
5-9	111	45,964	39,004	38,500	42,387	49,000
10-14	147	50,756	11,100	44,600	50,000	56,971
15-19	147	59,201	14,341	48,300	58,510	66,500
20-24	150	66,011	17,846	55,000	63,930	76,000
25-29	124	77,816	71,807	58,250	67,253	80,000
30-34	90	76,284	32,127	60,000	72,000	84,250
35-39	39	80,928	31,606	62,600	72,000	97,200
40 or more	24	77,866	17,134	67,750	77,400	88,000
PhD						
Total	2224	82,146	39,046	63,300	75,000	91,000
5-9	117	56,921	8,360	53,000	58,000	61,800
10-14	462	66,087	34,250	58,000	63,081	69,700
15-19	415	74,593	16,172	65,000	73,000	83,000
20-24	343	84,955	38,903	70,519	80,200	92,000
25-29	323	96,054	56,419	74,000	89,000	102,000
30-34	323	98,587	39,254	77,580	91,925	110,000
35-39	144	94,220	35,784	70,160	91,150	106,000
40 or more	97	92,460	33,700	72,000	88,000	103,881

Note: Categories with fewer than 15 cases are not shown.

Table 2.1.2

SALARIES of MEN CHEMISTS employed FULL-TIME in INDUSTRY
by DEGREE and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
BS						
Total	1115	54,161	29,733	37,100	49,000	64,000
0-1	40	30,043	8,356	23,720	30,000	33,750
2-4	144	35,133	34,783	27,805	31,716	36,250
5-9	168	39,713	9,510	33,098	39,000	44,850
10-14	168	48,908	11,741	41,950	48,550	55,298
15-19	171	58,116	15,661	48,000	56,567	65,500
20-24	152	59,532	36,625	45,000	54,000	69,200
25-29	98	72,499	29,769	55,200	66,374	80,000
30-34	80	69,262	19,723	55,700	65,500	80,000
35-39	49	82,076	40,374	56,210	68,000	93,000
40 or more	45	79,691	45,460	62,000	68,000	88,000
MS						
Total	644	63,351	22,637	48,980	60,000	74,805
5-9	71	42,755	8,755	38,700	44,000	49,000
10-14	95	51,115	10,781	45,000	50,000	57,000
15-19	115	61,555	13,987	52,500	60,000	68,000
20-24	117	67,105	17,238	56,080	64,250	78,000
25-29	106	69,104	21,922	58,000	66,910	80,000
30-34	73	77,131	31,739	62,000	72,000	84,250
35-39	34	85,405	30,856	65,460	81,960	100,000
40 or more	21	80,759	15,918	74,100	80,000	90,000
PhD						
Total	1929	83,529	39,507	64,692	76,500	92,432
5-9	85	57,750	8,376	54,000	58,500	62,175
10-14	363	65,172	28,074	57,500	63,400	70,050
15-19	358	74,298	15,984	65,000	73,000	83,000
20-24	297	86,009	41,193	70,750	80,950	92,000
25-29	297	97,202	58,160	75,000	89,280	102,240
30-34	303	99,692	39,908	78,900	92,512	111,200
35-39	138	94,454	34,900	70,896	91,325	106,000
40 or more	88	94,402	34,353	72,500	88,900	112,955

Note: Categories with fewer than 15 cases are not shown.

Table 2.1.3

SALARIES of WOMEN CHEMISTS employed FULL-TIME in INDUSTRY
by DEGREE and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
BS						
Total	456	43,417	35,111	31,697	39,500	49,000
0-1	36	37,281	52,078	24,323	28,600	35,050
2-4	118	31,206	6,921	25,925	31,254	36,000
5-9	113	40,020	7,510	34,890	40,000	46,000
10-14	78	53,688	70,583	39,000	45,000	54,200
15-19	41	53,816	13,517	45,000	54,400	63,500
20-24	27	52,944	14,055	38,025	55,000	65,400
25-29	19	55,407	15,894	45,000	56,000	66,000
MS						
Total	206	59,730	64,020	40,200	49,720	62,600
5-9	40	51,660	64,041	36,930	41,750	48,550
10-14	50	50,268	11,907	42,000	50,000	54,995
15-19	31	50,571	12,608	42,000	46,500	61,250
20-24	33	62,132	19,645	50,000	60,000	68,000
25-29	15	139,660	192,214	60,000	67,426	103,000
30-34	16	72,378	35,623	48,425	70,850	85,150
PhD						
Total	273	72,599	35,509	60,000	66,000	77,600
5-9	32	54,721	8,032	50,600	56,900	59,604
10-14	95	69,107	51,930	58,500	62,580	67,200
15-19	53	76,533	17,306	65,000	72,800	82,680
20-24	43	78,440	17,215	66,027	78,000	89,880
25-29	22	82,710	26,656	64,000	77,120	95,000
30-34	17	82,860	22,466	69,700	72,100	99,000

Note: Categories with fewer than 15 cases are not shown.

Table 2.2.1

SALARIES of BS CHEMISTS employed FULL-TIME in INDUSTRY
by TOTAL SUBORDINATES and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
Subordinates						
None						
Total	35	41,076	14,191	29,000	40,800	48,000
1-2						
Total	194	49,923	19,598	36,500	46,750	58,400
2-4	27	32,776	7,261	27,850	31,950	39,500
5-9	40	39,979	9,172	34,650	40,256	45,900
10-14	33	48,104	9,736	42,000	50,000	54,216
15-19	23	58,072	13,902	48,000	55,000	64,550
20-24	19	51,250	17,449	44,000	50,000	63,602
25-29	18	60,511	15,268	46,500	61,200	72,050
3-9						
Total	1282	49,902	31,739	34,500	45,000	58,452
0-1	67	34,148	38,549	24,000	29,640	35,000
2-4	222	33,604	28,333	26,500	31,375	36,000
5-9	230	39,698	8,498	33,675	39,000	45,000
10-14	202	50,576	44,769	40,200	46,234	55,000
15-19	179	56,348	15,062	46,471	56,000	65,000
20-24	147	58,174	36,463	44,429	54,850	65,600
25-29	86	67,812	22,376	54,500	65,140	78,000
30-34	74	67,474	17,000	55,300	64,737	79,000
35-39	42	68,713	31,127	51,000	62,552	81,000
40 or more	33	76,702	40,134	62,000	66,840	88,000
10-14						
Total	56	65,680	26,069	45,000	64,500	88,500
15-29						
Total	18	121,636	65,086	70,200	107,500	135,000

Note: Categories with fewer than 15 cases are not shown.

Table 2.2.2

SALARIES of BS CHEMISTS employed FULL-TIME in INDUSTRY
by EMPLOYER SIZE and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
EMPLOYER SIZE						
Less than 500						
Total	512	44,756	22,834	30,590	40,000	53,000
0-1	31	26,073	7,318	21,000	25,500	30,000
2-4	103	28,848	5,692	24,960	28,980	32,030
5-9	91	37,482	10,091	31,000	36,500	42,000
10-14	86	47,087	12,407	38,400	46,550	54,950
15-19	67	54,098	15,925	43,000	51,840	65,000
20-24	55	48,058	15,424	39,000	45,000	53,000
25-29	22	61,358	28,100	43,486	55,818	70,000
30-34	22	61,182	21,527	49,000	59,000	69,060
35-39	21	79,675	48,406	54,000	62,604	92,000
500 to 2,499						
Total	321	51,303	35,813	34,000	43,368	59,400
2-4	53	39,972	56,278	28,500	32,000	35,000
5-9	65	38,832	8,866	32,000	37,500	42,500
10-14	49	46,301	11,878	36,780	44,694	52,000
15-19	43	54,573	12,602	45,812	52,800	62,600
20-24	32	59,772	18,936	46,215	58,100	71,500
25-29	24	71,224	33,506	50,000	63,515	79,270
30-34	21	61,276	21,758	45,000	62,500	75,000
2,500 to 9,999						
Total	275	54,912	24,605	39,600	50,000	65,000
2-4	34	35,144	8,173	30,000	35,500	40,000
5-9	43	42,034	7,906	36,250	40,000	47,100
10-14	47	48,154	9,461	42,000	48,876	55,596
15-19	36	58,452	13,750	49,550	56,664	65,670
20-24	41	58,075	19,990	46,125	56,880	68,100
25-29	27	73,450	35,772	55,764	66,500	78,000
30-34	15	71,599	14,395	63,000	69,000	85,000
10,000 to 24,999						
Total	158	56,009	35,826	40,004	50,082	63,900
2-4	20	34,638	8,500	29,442	35,680	39,350
5-9	27	41,692	5,162	38,100	41,160	46,000
10-14	27	49,969	8,657	44,100	48,360	57,000
15-19	21	62,095	15,536	55,000	57,985	63,900
20-24	24	77,424	80,242	48,219	63,850	70,487
25,000 or more						
Total	302	56,076	40,834	39,500	50,350	65,400
0-1	17	30,554	6,961	28,000	30,000	34,800
2-4	47	33,824	8,549	28,500	34,368	38,500
5-9	54	42,387	7,117	38,000	43,000	46,300
10-14	34	69,971	105,267	45,600	51,213	55,000
15-19	47	61,208	15,991	50,500	59,000	71,000
20-24	28	61,616	14,898	53,020	58,314	69,300
25-29	35	71,778	22,091	56,000	70,000	83,000
30-34	24	75,670	16,926	60,827	70,000	90,000

Note: Categories with fewer than 15 cases are not shown.

Table 2.3.1

SALARIES of MS CHEMISTS employed FULL-TIME in INDUSTRY
by TOTAL SUBORDINATES and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
Subordinates						
None						
Total	15	54,830	16,618	41,460	53,287	68,600
1-2						
Total	120	58,167	18,265	46,150	57,330	70,100
10-14	23	47,165	12,637	37,500	48,500	55,776
15-19	23	60,643	15,766	49,740	58,740	71,000
20-24	25	62,077	14,184	55,000	60,191	71,000
25-29	17	58,665	22,621	49,400	55,000	66,400
3-9						
Total	681	61,527	38,295	46,500	56,971	70,000
2-4	25	34,126	7,196	26,888	32,500	40,200
5-9	99	46,927	41,026	38,600	43,000	49,200
10-14	118	51,476	10,710	45,000	50,000	57,000
15-19	114	58,551	14,106	48,000	57,880	65,500
20-24	119	66,050	17,218	54,350	64,000	76,000
25-29	99	80,488	78,932	60,000	68,552	80,520
30-34	66	71,808	20,812	60,000	72,000	80,300
35-39	25	74,589	22,785	62,600	69,000	88,360
40 or more	16	76,245	15,079	67,320	78,400	85,237
10-14						
Total	30	81,028	36,407	57,200	67,300	99,500

Note: Categories with fewer than 15 cases are not shown.

Table 2.3.2

SALARIES of MS CHEMISTS employed FULL-TIME in INDUSTRY
by EMPLOYER SIZE and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
EMPLOYER SIZE						
Less than 500						
Total	205	56,456	26,544	40,000	50,000	68,000
5-9	24	36,703	7,092	32,795	37,980	42,000
10-14	33	47,745	13,710	38,000	45,000	56,971
15-19	38	55,261	13,468	45,720	55,825	65,000
20-24	34	61,738	17,418	48,960	60,500	68,000
25-29	28	59,104	24,630	45,404	59,000	77,500
30-34	19	76,843	50,958	42,000	63,000	100,000
500 to 2,499						
Total	155	60,194	37,620	45,000	54,600	65,000
5-9	27	56,950	77,727	38,600	43,400	50,000
10-14	28	47,297	12,158	38,868	46,120	52,370
15-19	30	58,197	14,720	48,000	54,800	61,200
20-24	32	62,015	15,362	50,980	60,095	66,000
25-29	17	76,326	25,376	64,000	68,400	80,000
2,500 to 9,999						
Total	153	65,105	21,743	50,000	62,500	75,000
10-14	26	53,859	10,747	46,000	49,670	62,500
15-19	31	61,735	17,477	50,000	62,000	71,000
20-24	23	69,728	15,078	53,100	70,000	79,500
25-29	27	73,575	23,250	56,650	64,850	92,000
30-34	22	77,213	29,971	63,000	73,000	81,592
10,000 to 24,999						
Total	119	62,542	18,561	49,200	57,000	70,200
10-14	28	54,247	7,057	48,550	53,000	57,000
15-19	16	60,773	12,281	52,150	57,410	65,285
20-24	24	69,504	20,663	53,818	66,000	79,000
25,000 or more						
Total	221	68,104	55,695	50,000	60,000	74,731
5-9	31	46,118	9,430	41,460	47,500	51,000
10-14	32	51,311	9,009	46,880	53,144	54,372
15-19	31	62,210	11,793	55,000	61,000	70,450
20-24	36	69,088	19,401	57,773	64,375	78,000
25-29	38	97,672	123,604	63,000	68,563	78,300
30-34	26	75,038	19,518	63,000	74,913	79,200

Note: Categories with fewer than 15 cases are not shown.

Table 2.4.1

SALARIES of PhD CHEMISTS employed FULL-TIME in INDUSTRY
by TOTAL SUBORDINATES and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
Subordinates						
1-2						
Total	402	75,839	44,396	61,150	69,523	81,950
5-9	24	56,349	9,538	51,800	56,800	61,500
10-14	108	63,317	8,160	57,650	62,610	68,140
15-19	84	68,838	12,940	60,250	67,524	77,500
20-24	50	82,967	53,927	65,000	74,000	88,000
25-29	48	99,179	99,554	71,460	77,970	90,000
30-34	51	86,467	33,677	67,022	82,150	99,000
35-39	18	86,438	38,663	68,800	72,494	94,500
40 or more	19	86,300	21,201	71,400	87,540	98,000
3-9						
Total	1639	79,597	33,418	63,400	75,000	90,000
5-9	89	57,140	8,117	53,000	58,000	61,517
10-14	344	66,895	39,312	58,000	63,514	70,075
15-19	313	75,168	15,453	66,000	73,800	84,500
20-24	272	83,388	35,670	71,000	80,490	90,114
25-29	229	89,672	42,276	74,000	88,000	100,000
30-34	222	92,212	25,749	75,024	89,678	105,000
35-39	104	88,461	25,392	70,160	90,000	100,574
40 or more	66	90,123	32,610	70,000	88,900	103,000
10-14						
Total	110	108,628	40,040	81,686	100,000	128,077
25-29	27	107,095	30,775	83,000	99,960	129,700
30-34	25	123,733	43,966	93,000	114,660	149,000
35-39	17	122,825	56,635	100,000	110,000	138,240
15-29						
Total	60	147,618	62,353	105,125	132,500	174,000
25-29	17	158,176	54,051	119,000	135,000	200,000
30-34	23	161,094	75,014	119,808	135,000	181,000

Note: Categories with fewer than 15 cases are not shown.

Table 2.4.2

SALARIES of PhD CHEMISTS employed FULL-TIME in INDUSTRY
by EMPLOYER SIZE and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
EMPLOYER SIZE						
Less than 500						
Total	431	81,016	52,380	56,000	70,000	90,000
5-9	19	53,401	9,220	48,500	50,850	62,000
10-14	86	66,287	56,188	51,000	58,550	67,000
15-19	76	71,433	20,042	56,813	70,000	82,400
20-24	66	84,782	55,564	63,400	72,750	90,080
25-29	58	98,822	79,989	62,700	86,453	105,000
30-34	59	98,122	42,582	72,000	85,000	120,000
35-39	40	88,515	53,335	55,000	70,984	99,000
40 or more	27	78,394	27,138	58,416	74,500	100,000
500 to 2,499						
Total	312	80,119	45,454	61,000	72,000	88,130
5-9	18	52,172	13,364	49,000	53,816	60,000
10-14	65	69,638	61,950	56,000	61,000	68,280
15-19	53	69,796	13,743	63,000	69,000	75,960
20-24	50	78,239	20,640	66,027	78,167	85,500
25-29	48	91,509	57,507	68,710	81,575	94,738
30-34	46	98,080	53,204	70,745	86,000	105,000
35-39	21	97,965	32,324	75,000	96,000	116,292
2,500 to 9,999						
Total	402	80,744	39,158	63,000	74,994	88,400
5-9	19	57,326	5,259	54,000	57,000	60,000
10-14	86	64,098	10,167	58,000	62,750	69,300
15-19	84	75,031	13,607	65,500	74,994	81,593
20-24	53	83,553	22,256	70,533	81,000	92,432
25-29	64	102,271	79,460	75,000	85,650	102,300
30-34	53	90,511	34,309	71,000	82,400	105,000
35-39	25	88,796	24,511	68,712	87,840	100,000
40 or more	18	86,898	31,286	64,500	89,500	96,000
10,000 to 24,999						
Total	333	81,464	27,174	66,000	75,024	89,500
5-9	16	60,103	3,567	57,620	60,050	62,088
10-14	69	64,234	8,863	59,575	64,575	70,050
15-19	59	73,556	14,870	65,000	72,000	81,000
20-24	59	82,701	18,426	72,390	80,900	89,000
25-29	42	88,354	28,735	74,160	83,437	90,400
30-34	53	97,870	35,625	82,680	92,500	101,400
35-39	18	100,637	28,142	85,200	97,148	113,300
40 or more	17	106,177	42,554	84,000	90,000	102,200
25,000 or more						
Total	737	84,836	30,756	66,500	80,000	96,000
5-9	43	58,549	6,118	54,500	58,500	61,860
10-14	155	66,383	8,544	61,800	65,000	70,608
15-19	140	78,105	16,011	69,250	75,300	86,050
20-24	115	89,776	46,383	75,000	85,000	96,000
25-29	111	95,901	24,641	81,000	92,000	106,000
30-34	110	103,611	34,463	85,000	100,000	117,000
35-39	39	99,807	21,014	85,200	98,000	110,000
40 or more	24	105,157	34,148	83,748	95,750	119,000

Note: Categories with fewer than 15 cases are not shown.

Table 3.1.1

SALARIES of PhD ACADEMIC CHEMISTS employed FULL-TIME
by CONTRACT STATUS and RANK
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
9-10 month						
Full professor	462	67,190	33,532	52,240	62,000	74,745
Assoc professor	188	47,918	30,784	38,656	45,000	51,046
Asst professor	208	40,014	14,696	34,942	38,483	42,000
Instructor	33	37,926	17,042	28,766	32,200	40,000
11-12 month						
Full professor	214	95,011	34,488	72,000	89,353	110,000
Assoc professor	57	72,263	82,890	50,000	60,000	69,000
Asst professor	54	50,276	14,087	42,000	50,000	59,410
Instructor	28	51,791	30,456	33,000	47,039	56,250
Research appt	108	41,859	42,653	26,940	32,162	48,000
Other nonfaculty	42	48,786	18,359	33,467	44,445	65,084

Note: Categories with fewer than 15 cases are not shown.

Table 3.2.1

SALARIES of PhD ACADEMIC CHEMISTS employed FULL-TIME
by RANK and INSTITUTIONAL CONTROL - 9 or 10 Month Contract
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
Public						
Full professor	310	68,335	38,200	54,000	62,733	74,120
Assoc professor	110	50,557	39,378	40,300	45,149	52,400
Asst professor	124	39,702	6,154	35,100	39,200	42,774
Instructor	22	34,527	10,003	28,000	30,660	40,000
Private						
Full professor	151	64,753	20,971	50,040	61,000	76,325
Assoc professor	76	44,280	9,161	36,500	43,673	50,880
Asst professor	84	40,474	21,958	33,500	37,683	42,000

Table 3.2.2

SALARIES of PhD ACADEMIC CHEMISTS employed FULL-TIME
by RANK and INSTITUTIONAL CONTROL - 11 or 12 Month Contract
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
Public						
Full professor	148	90,935	26,806	71,646	86,750	103,578
Assoc professor	35	76,429	103,242	51,000	61,500	65,975
Asst professor	30	51,963	15,882	45,000	50,000	56,250
Instructor	20	47,667	21,813	30,750	42,312	54,750
Research appt	68	44,580	52,681	26,000	32,445	49,864
Other nonfaculty	23	46,602	18,204	32,008	44,600	61,818
Private						
Full professor	63	104,754	47,316	72,400	100,000	135,000
Assoc professor	22	65,636	31,458	39,500	53,500	87,000
Asst professor	24	48,166	11,441	38,000	49,155	59,705
Research appt	38	37,654	13,971	28,000	32,663	45,000
Other nonfaculty	19	51,430	18,687	36,000	44,290	72,000

Note: Categories with fewer than 15 cases are not shown.

Table 3.3.1

SALARIES of PhD ACADEMIC CHEMISTS employed FULL-TIME
by RANK and TYPE OF INSTITUTION - 9 or 10 Month Contract
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
NonPhD-granting						
Full professor	249	59,268	40,059	48,500	56,451	64,145
Assoc professor	112	42,341	8,204	36,475	40,900	47,000
Asst professor	126	38,147	17,883	34,000	36,055	39,970
Instructor	20	36,456	12,819	28,241	31,660	39,150
PhD-granting						
Full professor	209	76,224	20,230	61,000	73,400	88,488
Assoc professor	75	56,194	46,659	44,000	49,000	56,237
Asst professor	82	42,883	6,681	39,000	42,000	45,000

Table 3.3.2

SALARIES of PhD ACADEMIC CHEMISTS employed FULL-TIME
by RANK and TYPE OF INSTITUTION - 11 or 12 Month Contract
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
NonPhD-granting						
Full professor	46	70,206	22,892	55,000	67,877	84,000
PhD-granting						
Full professor	97	101,537	33,934	79,277	92,000	117,000
Assoc professor	29	79,873	113,857	51,000	60,000	63,228
Asst professor	23	47,284	11,125	43,500	48,000	51,384
Instructor	18	57,363	35,511	33,000	51,289	68,154
Research appt	93	42,521	45,541	26,200	33,000	48,000
Other nonfaculty	34	47,011	16,960	33,467	43,658	60,660
Medical school						
Full professor	71	102,166	34,466	79,000	98,000	115,000
Assoc professor	18	74,139	24,533	54,875	64,500	93,000
Asst professor	23	58,015	14,168	49,534	59,000	61,000

Note: Categories with fewer than 15 cases are not shown.

Table 3.4.1

SALARIES of PhD ACADEMIC CHEMISTS employed FULL-TIME
by RANK and SEX - 9 or 10 Month Contract
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
Men						
Full professor	413	68,389	34,942	53,686	63,000	76,000
Assoc professor	142	49,241	35,084	39,000	45,167	52,000
Asst professor	133	40,980	17,716	35,000	39,682	42,000
Instructor	21	36,261	12,556	28,800	32,000	36,000
Women						
Full professor	44	55,975	14,238	45,271	54,232	64,845
Assoc professor	46	43,834	7,653	38,594	43,524	49,000
Asst professor	73	38,203	6,354	34,000	38,000	42,500

Table 3.4.2

SALARIES of PhD ACADEMIC CHEMISTS employed FULL-TIME
by RANK and SEX - 11 or 12 Month Contract
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
Men						
Full professor	198	94,957	34,220	72,000	90,000	110,000
Assoc professor	53	74,958	85,364	51,000	61,000	69,825
Asst professor	43	51,502	13,890	43,500	50,000	59,939
Instructor	19	57,632	34,628	28,500	52,750	70,000
Research appt	83	43,561	47,875	26,200	32,890	50,000
Other nonfaculty	30	52,841	19,143	39,500	49,000	68,000
Women						
Research appt	25	36,210	15,380	27,000	31,540	40,500

Note: Categories with fewer than 15 cases are not shown.

Table 4.1.1

STIPENDS of ACADEMIC POSTDOCTORAL FELLOWS
by INSTITUTIONAL CONTROL and WORK SPECIALTY
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
WORK SPECIALTY						
Biochemistry						
Total	37	25,294	4,179	22,500	25,000	28,044
Public	19	24,660	4,373	20,700	25,200	28,044
Private	18	25,964	3,977	22,500	25,000	28,950
Chemistry						
Total	105	26,519	20,162	22,000	24,000	27,000
Public	68	27,232	24,672	22,000	24,000	27,000
Private	37	25,208	6,222	23,850	25,000	27,000

Note: Categories with fewer than 15 cases are not shown.

Table 5.1.1

SALARIES of CHEMICAL ENGINEERS employed FULL-TIME in INDUSTRY
by DEGREE and YEARS SINCE BS
1996 ACS Salary Survey

	Count	Mean	Std Dev	25th %-ile	50th %-ile	75th %-ile
HIGHEST DEGREE						
BS						
Total	105	60,463	24,289	47,700	58,800	69,480
2-4	15	36,425	8,796	26,250	36,250	42,000
10-14	18	60,774	12,151	58,000	61,589	66,000
20-24	18	66,136	20,224	51,500	59,820	71,900
MS						
Total	78	72,375	24,471	55,000	69,400	83,350
15-19	16	77,189	16,268	68,170	76,170	85,500
20-24	20	74,492	13,735	66,100	70,000	81,100
PhD						
Total	133	82,577	27,297	66,900	76,100	93,000
10-14	26	68,185	7,434	62,000	69,000	74,000
15-19	18	67,592	19,685	60,000	70,875	79,000
20-24	22	83,625	18,804	69,000	83,340	95,000
25-29	21	93,004	18,318	83,318	86,000	108,000
30-34	19	106,186	40,399	83,950	94,050	120,000

Note: Categories with fewer than 15 cases are not shown.

Table 6.1.1

EMPLOYMENT STATUS OF ALL CHEMISTS
by EMPLOYER TYPE
1996 Survey of ACS Members

	EMPLOYMENT STATUS						Total
	Full-time	Part-time	Postdoc	Seeking empl	Not seeking empl	No Answer	
EMPLOYER TYPE							
Industry	5006	50	22	170	100	0	5348
Row Percent	93.6%	.9%	.4%	3.2%	1.9%	.0%	100.0%
Column Percent	63.8%	21.5%	9.3%	65.9%	49.0%	.0%	60.9%
Government	571	10	28	13	12	0	634
Row Percent	90.1%	1.6%	4.4%	2.1%	1.9%	.0%	100.0%
Column Percent	7.3%	4.3%	11.8%	5.0%	5.9%	.0%	7.2%
Other Nonacademic	334	54	6	28	27	1	450
Row Percent	74.2%	12.0%	1.3%	6.2%	6.0%	.2%	100.0%
Column Percent	4.3%	23.2%	2.5%	10.9%	13.2%	16.7%	5.1%
High School	113	10	0	2	9	0	134
Row Percent	84.3%	7.5%	.0%	1.5%	6.7%	.0%	100.0%
Column Percent	1.4%	4.3%	.0%	.8%	4.4%	.0%	1.5%
College or University	1710	106	174	38	39	2	2069
Row Percent	82.6%	5.1%	8.4%	1.8%	1.9%	.1%	100.0%
Column Percent	21.8%	45.5%	73.4%	14.7%	19.1%	33.3%	23.5%
No answer	115	3	7	7	17	3	152
Row Percent	75.7%	2.0%	4.6%	4.6%	11.2%	2.0%	100.0%
Column Percent	1.5%	1.3%	3.0%	2.7%	8.3%	50.0%	1.7%
Total	7849	233	237	258	204	6	8787
Row Percent	89.3%	2.7%	2.7%	2.9%	2.3%	.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 6.1.2

EMPLOYMENT STATUS OF ALL CHEMISTS
by HIGHEST DEGREE
1996 Survey of ACS Members

	EMPLOYMENT STATUS						Total
	Full-time	Part-time	Postdoc	Seeking empl	Not seeking empl	No Answer	
HIGHEST DEGREE							
BS	2012	65	14	77	75	1	2244
Row Percent	89.7%	2.9%	.6%	3.4%	3.3%	.0%	100.0%
Column Percent	25.7%	28.0%	5.9%	30.2%	37.1%	16.7%	25.6%
MS	1337	53	9	41	47	1	1488
Row Percent	89.9%	3.6%	.6%	2.8%	3.2%	.1%	100.0%
Column Percent	17.1%	22.8%	3.8%	16.1%	23.3%	16.7%	17.0%
PhD	4474	114	214	137	80	4	5023
Row Percent	89.1%	2.3%	4.3%	2.7%	1.6%	.1%	100.0%
Column Percent	57.2%	49.1%	90.3%	53.7%	39.6%	66.7%	57.4%
Total	7823	232	237	255	202	6	8755
Row Percent	89.4%	2.6%	2.7%	2.9%	2.3%	.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 6.1.3

EMPLOYMENT STATUS OF ALL CHEMISTS
by AGE
1996 Survey of ACS Members

	EMPLOYMENT STATUS						Total
	Full-time	Part-time	Postdoc	Seeking empl	Not seeking empl	No Answer	
AGE							
20-24	181	12	6	8	8	0	215
Row Percent	84.2%	5.6%	2.8%	3.7%	3.7%	.0%	100.0%
Column Percent	2.3%	5.2%	2.5%	3.1%	3.9%	.0%	2.4%
25-29	587	21	85	23	9	0	725
Row Percent	81.0%	2.9%	11.7%	3.2%	1.2%	.0%	100.0%
Column Percent	7.5%	9.0%	35.9%	8.9%	4.4%	.0%	8.3%
30-34	1079	25	96	23	15	0	1238
Row Percent	87.2%	2.0%	7.8%	1.9%	1.2%	.0%	100.0%
Column Percent	13.7%	10.7%	40.5%	8.9%	7.4%	.0%	14.1%
35-39	1277	35	35	35	18	2	1402
Row Percent	91.1%	2.5%	2.5%	2.5%	1.3%	.1%	100.0%
Column Percent	16.3%	15.0%	14.8%	13.6%	8.8%	33.3%	16.0%
40-44	1189	33	6	42	8	0	1278
Row Percent	93.0%	2.6%	.5%	3.3%	.6%	.0%	100.0%
Column Percent	15.1%	14.2%	2.5%	16.3%	3.9%	.0%	14.5%
45-49	1060	11	5	46	6	1	1129
Row Percent	93.9%	1.0%	.4%	4.1%	.5%	.1%	100.0%
Column Percent	13.5%	4.7%	2.1%	17.8%	2.9%	16.7%	12.8%
50-54	1064	19	2	39	15	0	1139
Row Percent	93.4%	1.7%	.2%	3.4%	1.3%	.0%	100.0%
Column Percent	13.6%	8.2%	.8%	15.1%	7.4%	.0%	13.0%
55-59	804	32	1	25	17	1	880
Row Percent	91.4%	3.6%	.1%	2.8%	1.9%	.1%	100.0%
Column Percent	10.2%	13.7%	.4%	9.7%	8.3%	16.7%	10.0%
60-64	442	25	0	14	48	2	531
Row Percent	83.2%	4.7%	.0%	2.6%	9.0%	.4%	100.0%
Column Percent	5.6%	10.7%	.0%	5.4%	23.5%	33.3%	6.0%
65-69	164	20	1	3	59	0	247
Row Percent	66.4%	8.1%	.4%	1.2%	23.9%	.0%	100.0%
Column Percent	2.1%	8.6%	.4%	1.2%	28.9%	.0%	2.8%
70 or more	2	0	0	0	1	0	3
Row Percent	66.7%	.0%	.0%	.0%	33.3%	.0%	100.0%
Column Percent	.0%	.0%	.0%	.0%	.5%	.0%	.0%
Total	7849	233	237	258	204	6	8787
Row Percent	89.3%	2.7%	2.7%	2.9%	2.3%	.1%	100.0%
Column Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

American Chemical Society

1155 SIXTEENTH STREET, N.W.
WASHINGTON, D.C. 20036
PHONE (202) 872-4534

JOHN K CRUM
Executive Director

February 23, 1996

Dear Colleague:

Each year, the American Chemical Society studies the salaries and economic status of the U.S. chemical profession by surveying a sample of its members. You are one of the 20,000 members I am asking to participate in this survey, conducted under the aegis of the Council Committee on Economic and Professional Affairs.

Your participation is an important service to your colleagues. As you know, a high response rate is needed to assure accurate results. Please take a few minutes now to complete the questionnaire and return it in the enclosed business reply envelope. Your responses are strictly confidential. Your name and address will not be coupled with the information you provide. A code is included only to enable us to cross your name off our follow-up list once we have received your completed questionnaire. The information you provide will be combined with that from other members and only the aggregate data will be available.

The findings will be reported to ACS members in several ways. Early in the summer, *Chemical & Engineering News* will publish a cover story on the salaries and employment status of chemists. At about the same time, the ACS will publish a detailed report entitled "Salaries 1996."

Please feel free to use the back of the questionnaire for comments and suggestions that you might care to make.

Thank you for your assistance.

Sincerely,

John K Crum

John K Crum

JKC/mwj

Enclosure

AMERICAN CHEMICAL SOCIETY

1996 Comprehensive Salary and Employment Status Survey

Please complete and return as soon as possible in the envelope provided.
Thank you for your participation.

MARKING INSTRUCTIONS
- Use a No. 2 pencil or blue or black ink pen only.
- Do not use pens with ink that soak through the paper.
- Make solid marks that fill the oval completely.
- Make no stray marks on this form.

INCORRECT MARKS ⊘ ⊗ ✓ ◒
CORRECT MARK ●

EDUCATION AND EMPLOYMENT STATUS

1. What is the highest degree you have received to date: (Fill in one)

- Less than Bachelor's ①
- Bachelor's ②
- Master's ③
- Doctorate ④
- Other (specify) _____ ⑤

2. Please fill in the year for each degree you have earned.

Bachelor's	Master's	Doctorate
19	19	19
0 0	0 0	0 0
1 1	1 1	1 1
2 2	2 2	2 2
3 3	3 3	3 3
4 4	4 4	4 4
5 5	5 5	5 5
6 6	6 6	6 6
7 7	7 7	7 7
8 8	8 8	8 8
9 9	9 9	9 9

3. Please check the appropriate box in each column.

	Field of highest degree	The ONE specialty most related to your current or most recent job
Chemical engineering	01	01
Biochemistry	02	02
Biotechnology	03	03
General chemistry	04	04
Agricultural/food chemistry	05	05
Analytical chemistry	06	06
Clinical chemistry	07	07
Environmental chemistry	08	08
Inorganic chemistry	09	09
Materials science	10	10
Medicinal/pharmaceutical chemistry	11	11
Organic chemistry	12	12
Physical chemistry	13	13
Polymer chemistry	14	14
Other chemical science	15	15
Business administration	16	16
Computer science	17	17
Law	18	18
Other non-chemistry	19	19

4. Please enter your primary employment status as of March 1, 1996. Choose the one category that best fits your situation. (Fill in one)

Employed full-time (35 hours or more per week)	①	Go to 5
Employed part-time	②	Skip to 7
Postdoctoral or other fellowship	③	Skip to 7
Not employed but actively seeking employment	④	Skip to 6
Not employed and NOT seeking employment	⑤	Skip to 7

5. If you are currently employed *FULL-TIME*, is your job permanent or temporary? (Fill in one)

- Permanent ①
- Temporary ②
- Agency temp ③
- Fixed term contract ④

} Skip to 7

6. If you were *NOT EMPLOYED BUT ACTIVELY SEEKING EMPLOYMENT* on March 1, 1996 how long had you been unemployed? (Fill in one)

- Less than 1 month ①
- 1 to 3 months ②
- 4 to 6 months ③
- 7 to 12 months ④
- More than 1 year ⑤

7. Regardless of your current status, was there any period when you were *NOT EMPLOYED AND ACTIVELY SEEKING EMPLOYMENT* in calendar year 1995? (Fill in one)

① Yes ② No

***IF YES*, how many total months were you *NOT EMPLOYED AND ACTIVELY SEEKING EMPLOYMENT* during calendar year 1995?** (Fill in one)

① Less than 1 month ② 1 to 3 months ③ 4 to 6 months ④ 7 to 11 months ⑤ 12 months

8. If you are CURRENTLY EMPLOYED, how long have you worked for your current employer? (Fill in one)

① Less than 1 year ② 1 to 4 years ③ 5 to 9 years ④ 10 to 19 years ⑤ 20 or more years

9. Do you do any consulting? (Fill in one)

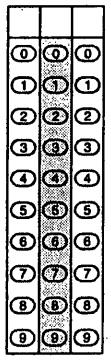
① Yes ② No

If yes, how many hours *per month*? (Fill in one)

① Less than 10 hrs ② 10 - 19 hrs ③ 20 - 39 hrs ④ 40 - 99 hrs ⑤ 100 or more hrs

30873

10. What are the first three digits of the ZIP CODE of your current or most recent place of employment?



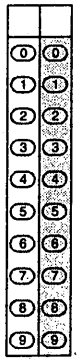
QUESTIONS ABOUT YOURSELF

1. Your sex:

① Male ② Female

2. Your age at last birthday before March 1, 1996:

AGE →



3. Your citizenship or visa status: (Fill in one)

U.S. native	①
U.S. naturalized	②
U.S. permanent resident visa	③
Other visa	④

4. What is your background? (Fill in one)

African American	①
American Indian or Alaskan Native	②
Asian	③
White	④
Other	⑤

5. Are you of Hispanic origin or descent? (Fill in one)

① Yes ② No

IF YOU ARE EMPLOYED, EITHER FULL-TIME OR PART-TIME, PLEASE ANSWER ***CURRENT INCOME AND JOB EVALUATION.***

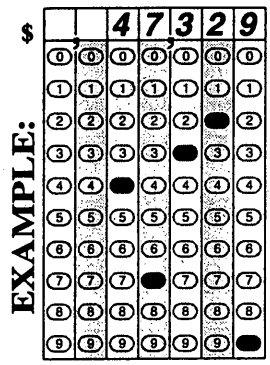
IF YOU ARE NOT CURRENTLY EMPLOYED, PLEASE SKIP TO ***CURRENT OR MOST RECENT PRIMARY JOB.***

CURRENT INCOME AND JOB EVALUATION

In filling out questions, please follow example below:

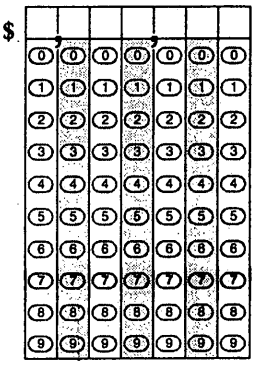
1. ***BASE ANNUAL SALARY*** **from PRINCIPAL JOB as of March 1, 1996.**
(DO NOT INCLUDE bonuses, earnings from second job, overtim work, summer teaching, or other supplemental earnings.) If on a or 10 month contract, report the 9 or 10 month salary rather tha an annualized salary.

EXAMPLE:

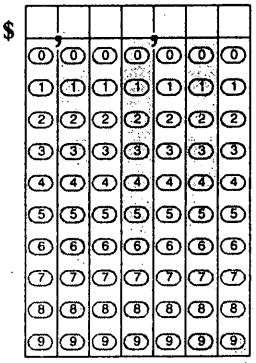


$ per year

2. ***TOTAL PROFESSIONAL INCOME*** **during calendar year 1995**
(INCLUDE consulting fees, base annual salary, bonuses, earning from second job, overtime, summer teaching, and other supplemental earnings.)



3. What was your ***SALARY LAST YEAR?*** **Please indicate your ba annual salary from principal job as of March 1, 1995.**
(DO NOT INCLUDE bonuses, earnings from second job, overtime work, summer teaching, or other supplemental earnings.) If on a 9 or 10 month contract, report the 9 or 10 month salary rather tha an annualized salary.



4. If you do any *CONSULTING*, what is your *HOURLY RATE?*

$ ___ per hour

5. What was your TOTAL CONSULTING INCOME during calendar year 1995?

$ ___ per year

CURRENT OR MOST RECENT *PRIMARY* JOB

IF YOUR CURRENT OR MOST RECENT EMPLOYER IS NOT AN ACADEMIC INSTITUTION, GO TO SECTION B.

A. CURRENT OR MOST RECENT EMPLOYMENT IS IN AN *ACADEMIC* INSTITUTION.

1. Current (or most recent) principal employer:

College or university where the highest degree offered in chemistry or chemical engineering is:

- Associate's (1)
- Bachelor's (2)
- Master's (3)
- Doctorate (4)
- Medical or professional school (5)
- High school (6)

2. Your employer is a: (Fill in one)

(1) Public institution (2) Private institution

3. Your academic rank: (Fill in one)

- Full professor (1)
- Associate professor (2)
- Assistant professor (3)
- Visiting or adjunct professor, instructor, lecturer (4)
- Non-teaching research appointment (5)
- Other non-faculty (6)
- My institution does not have ranks (7)

4. Have you been granted tenure? (Fill in one)

- Yes (1)
- Not tenured, in tenure track (2)
- Not tenured, not in tenure track (3)
- Not Applicable (4)

5. Your basic contract is for a period of: (Fill in one)

(1) 9 or 10 months (2) 11 or 12 months

6. About what fraction of your total working time in the academic year is devoted to: (Fill in all that apply)

	1-25%	26-33%	34-50%	51-66%	67-75%	76-100%
Teaching	○	○	○	○	○	○
Research	○	○	○	○	○	○
Administration	○	○	○	○	○	○
Other	○	○	○	○	○	○

B. CURRENT OR MOST RECENT EMPLOYMENT IS *NOT* IN AN ACADEMIC INSTITUTION.

1. Current (or most recent) principal employer:

- Self-employed (01)

Non-manufacturing:

- Analytical service laboratory (02)
- Contract research firms (03)
- Utility company (04)
- Other non-manufacturing (05)

Manufacturing company primarily involved in:

- Aerospace (06)
- Basic chemicals (07)
- Specialty chemicals (08)
- Agricultural chemicals (09)
- Biochemical products (10)
- Coatings, paints, inks (11)
- Electronics (12)
- Food (13)
- Instruments (14)
- Medical devices/diagnostic products (15)
- Metals, minerals (16)
- Paper (17)
- Personal care (18)
- Petroleum/natural gas (19)
- Pharmaceuticals (20)
- Plastics (21)
- Rubber (22)
- Soaps, detergents, surfactants (23)
- Other manufactures (24)

Government:

- Federal (civilian) (25)
- State or local (26)
- Military (27)

Other nonacademic employer:

- Hospital, independent laboratory (28)
- Non-profit organization, other research institution (29)

Other employment (30)

42

2. Employer's approximate number of employees (total for the whole organization):

- Less than 500 (1)
- 500 to 2,499 (2)
- 2,500 to 9,999 (3)
- 10,000 to 24,999 (4)
- 25,000 or more (5)

3. Check the ONE work function that best describes your job:

Research and Development:
- Management or administration of R&D (01)
- Basic research (02)
- Applied research, development, design (03)

- General management or administration (other than R&D) (04)
- Marketing, sales, purchasing, technical service, economic evaluation (05)
- Production, quality control (06)
- Health and safety/regulatory affairs (07)
- Forensic analysis (08)
- Other laboratory analysis (09)
- Teaching (10)
- Chemistry information services (11)
- Computer programming, analysis, design (12)
- Patents, licensing, trademarks (13)
- Consulting (14)
- Other (specify)_____ (15)

4. Is your job classified as a:

- Chemical or engineering technician (1)
- Postdoctoral position (2)
- Scientist or engineer (3)
- Manager or administrator (4)
- Other (specify)_____ (5)

5. Were you eligible for a bonus during calendar 1995?

① Yes ② No ③ Not applicable

6. Did you receive a bonus during calendar 1995?

① Yes ② No ③ Not applicable

IF YES, please indicate amount $

7. How many people do you supervise, directly or indirectly? (Fill in all that apply.)

Professionals
○0 ○1-2 ○3-9 ○10-14 ○15-29 ○30-49 ○50-99 ○ or

Technicians
○0 ○1-2 ○3-9 ○10-14 ○15-29 ○30-49 ○50-99 ○ or

Others, including production workers
○0 ○1-2 ○3-9 ○10-14 ○15-29 ○30-49 ○50-99 ○ or

Comments:

THANK YOU FOR YOUR PARTICIPATION.
PLEASE RETURN THIS QUESTIONNAIRE IN THE ENVELOPE PROVIDED

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Employment Data and Information Resources

Employment Data: ACS, Department of Career Services

- Annual ACS Comprehensive Salary and Employment Status Survey
  . . . . . available summer
- Starting Salary Survey of New Graduates in Chemistry and Chemical Engineering
  . . . . . available winter
- All Member Survey
  . . . . . available every five years
- *Women Chemists Report*
  . . . . . available every five years

Special Studies: ACS, available from Department of Career Services

- *1995 Employment Patterns of Recent Doctorates in Chemistry*
- *1994 Current Trends in Chemical Technology, Business, and Employment*

Journals, Magazines, and Newspapers

- *Chemical and Engineering News*:
  Salaries - annual in July
  Employment Outlook - annual in October
  Facts and Figures for the Chemical Industry - annual in June
- *Chemical Week*
- *Today's Chemist at Work*

General Employment Information Sources

- Bureau of Labor Statistics
  Occupational Outlook Handbook, 1996-97 - #2470
  Occupational Projections and Training Data, 1996 - #2471
  Employment Outlook: 1994-2005 - #2472
  Career Guide to Industries, #2453
  Employment Outlook Quarterly - Quarterly Bulletin
- National Academy of Science
- National Center for Education Statistics, U.S. Department of Education
- National Science Foundation
  Science and Engineering Indicators, 1996, National Science Board
- Commission of Professional in Science and Technology
  Salaries of Scientists, Engineers, and Technicians, annual
- Media Sources
  Business Week
  Wall Street Journal
  New York Times
  Chronicle of Higher Education
  Forbes

OTHER ACS CAREER SERVICES PUBLICATIONS

***Employer Mailing** List* is the mailing list used to solicit employers for ACS employment services. It is arranged by state, and can be purchased for $10. Use of this mailing list is restricted to personal use only.

***ACS Career, Employment and Professional Resources**: A Catalog of Publications, Programs & Services.* This brochure lists all ACS career resources for high school and college students exploring career options; professionals seeking employment in chemistry and allied fields; and individuals facing the challenges of career development, career changes, and retirement.

For prices and ordering information, please call or write:

ACS Membership Service Center
4000 Olson Memorial Highway
PO Box 9389
Minneapolis, MN 55422-9389
Phone: 800/451-9190 or 612/520-6798
Fax: 612/520-6706

ON-LINE CAREER SERVICE EMPLOYMENT PROGRAMS

Department of Career Services information on publications and programs is available through the ChemCenter. Visit the "Professional Services" section at ChemCenter to view employment information for ACS members. http://www.chemcenter.org.

JOB BANK. The ACS Job Bank includes classified and display ads from the two most recent issues of *Chemical & Engineering News (C&EN).* The ACS Job Bank is updated weekly. Links to other online job banks and World Wide Web pages of major companies are also included. The Job Bank is available on the ACS Website.

C&EN Situation Wanted Ads. Employed ACS members and student affiliates may place an ad in C&EN at $6.60 a line per insertion, no minimum charge. Unemployed ACS members, student affiliates, and retired members may place free situations wanted ads; certain restrictions apply.

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