Employment Trends among Chemists in the US

American Chemical Society
Department of Research and Market Insights
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Background and History

The American Chemical Society was formed in 1876 to support scientific inquiry in the field of chemistry.

“[The society would] prove a powerful and healthy stimulus to original research, … would awaken and develop much talent now wasting in isolation, … [bring] members of the association into closer union, and ensure a better appreciation of our science and its students on the part of the general public.”

-Charles F. Chandler

By 2015, the Society would represent over 158,000 chemists around the world, with 16% residing outside of the US.
Background and History

Chemists join the ACS for access to information, career and employment information, and opportunities to network.

Salary and employment information was periodically collected from members beginning in 1941 when collection efforts were started by the Committee on Economic Status, a committee of the ACS.

In 1972, the ACS resolved to develop and maintain an annual salary and employment survey of our members.

As ACS membership is largely representative of the US chemical labor market, the data from this study has been used as a benchmark by the media and various government agencies.
Methodology

• The survey launches in early to mid March and measures salary and employment information as of March 1\textsuperscript{st} of that year

• Initially, all surveys were sent by mail and consisted of a single page of questions
  – Shifted from 100% paper collection to 96% online since initial move away from paper in 2007

• Currently the survey goes out to a random sample of the domestic ACS Workforce
  – Excludes students, emeritus/retired members, those over 70 and anyone living outside of the US

• Today, the survey has grown to three pages of core questions, with an additional fourth page of topical questions that rotates
2014 ACS COMPREHENSIVE SALARY AND EMPLOYMENT SURVEY RESULTS
Domestic Unemployment for ACS Chemists vs. Bureau of Labor Statistics Unemployment Rate

Adapted from ACS Comprehensive Salary and Employment Survey and ChemCensus 2002 to 2014 and Bureau of Labor Statistics Unemployment (as of March of each year)

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Domestic ACS Unemployment vs. Bureau of Labor Statistics Unemployment

Adapted from ACS Comprehensive Salary and Employment Survey and ChemCensus 2004 to 2014 and Bureau of Labor Statistics Unemployment for Chemists & Material Scientists (yearly average)

*2014 BLS data is only Q1 estimate
Domestic ACS Unemployment by Degree Level and Employment Status

### Unemployment Rate for ACS Chemists by Degree

<table>
<thead>
<tr>
<th>Degree</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD</td>
<td>3.4%</td>
<td>3.0%</td>
<td>2.2%</td>
</tr>
<tr>
<td>MS</td>
<td>5.4%</td>
<td>4.7%</td>
<td>4.6%</td>
</tr>
<tr>
<td>BS</td>
<td>5.9%</td>
<td>4.6%</td>
<td>4.2%</td>
</tr>
</tbody>
</table>

### Employment Status for ACS Chemists 2012-2014

- **Full-time**
  - 2012: 3.2%
  - 2013: 2.7%
  - 2014: 3.0%
  - Total: 90.0%
- **Part-time**
  - 2012: 2.6%
  - 2013: 2.5%
  - 2014: 2.1%
  - Total: 91.3%
- **Post-doc**
  - 2012: 4.2%
  - 2013: 3.5%
  - 2014: 2.9%
  - Total: 92.0%
- **Unemployed**
  - 2012: 2.9%
  - 2013: 2.7%
  - 2014: 2.5%
  - Total: 90.0%

Adapted from ACS Comprehensive Salary and Employment Survey 2013 and 2014

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Domestic salary gains for ACS Chemists have been modest or flat

Full-time Median Salary of ACS Chemists (Current $)

Full-time Median Salary of ACS Chemists (Constant 1984 Dollars $)

Adapted from ACS Comprehensive Salary and Employment Survey and ChemCensus 1985-2014

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Salary Results from 1972

<table>
<thead>
<tr>
<th>Degree level</th>
<th>Annual Salary in 1972</th>
<th>What that would be today…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor’s</td>
<td>$15,600</td>
<td>$89,038</td>
</tr>
<tr>
<td>Master’s</td>
<td>$16,300</td>
<td>$93,033</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>$19,200</td>
<td>$109,585</td>
</tr>
</tbody>
</table>

Further evidence that salaries are not keeping up with inflation
The percentage of ACS members working in manufacturing continues to decline

ACS Workforce by Field

Industry (manufacturing)

Academic

Industry (non-manufacturing)

Government

Self-Employed

Adapted from ACS Comprehensive Salary and Employment Survey and ChemCensus 2004 to 2014
Thank you!

If you have any questions or comments, please contact us.

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