

... study the chemical and physical properties of substances, develop and monitor chemical processes and production, develop new and improve existing food products, and plan and coordinate the production of wine and spirits.

Note: Only 234211 Chemist is included on the Skilled Occupations List (SOL).

Indicative Skill Level

Most occupations in this unit group have a level of skill commensurate with a bachelor degree or higher qualification. In some instances relevant experience and/or on-the-job training may be required in addition to the formal qualification (ANZSCO Skill Level 1).

Skilled Occupation Criteria

Long-lead time

Chemists meet the criteria for long lead time, as entry to this occupation requires a substantial training commitment.

- ▶ Employment as a Chemist generally requires the completion of a university qualification of at least four years study (full-time equivalent) with a research component, such as a Bachelor of Science (Honours).

High use

Chemists meet one aspect of the criteria for high use, showing that the skills which people have acquired through education and training are being deployed for the uses intended.

- ▶ Of new graduates employed as Chemists and Food and Wine Scientists, 73% had studied in a related field, such as chemistry or other natural and physical sciences (*Australian Graduate Survey, 2009*).
- ▶ As professionals, Chemists and Food and Wine Scientists are expected to have a level of skill commensurate with a Bachelor degree or higher qualification. Of those employed as Chemists and Food and Wine Scientists, 84% were found to possess this level of skill (*ABS Survey of Education and Work, 2010*).¹

High risk

Chemists also meet the criteria for high risk/high disruption. This indicates that the occupation is important for the effective operation of an enterprise and/or the broader economy.

- ▶ Chemists and Food and Wine Scientists are important to meet government policy priorities in innovation and research. This includes contributing to Australia's Farming Future, National Weeds and Productivity Research and food security research.

The other occupations in this unit group, 234212 Food Technologist and 234213 Wine Maker, have not been included on the Skilled Occupations List.

- ▶ These occupations are relatively small and generally do not require long lead time, indicating that other migration avenues may be more appropriate to meet skills needs.

¹ Analysis for the Skilled Occupations List (SOL) was conducted using the latest available data, including the 2010 ABS Survey of Education and Work (SEW). Percentages may therefore differ from those cited in the 'Occupation Trends' analysis (over the page), which uses alternative sources in some instances (e.g. the 2008 ABS Survey of Education and Work). Small sample sizes for some occupations may also result in fluctuations in the SEW data between 2008 and 2010. The specific data sources used for the Occupation Trends analysis can be found on the Skills Australia website: <http://www.skillsaustralia.gov.au/SOLsummarysheets.shtml>.

Occupation trends

Education data indicates that there is expected to be high growth in this occupation over the next five years. There are currently 12,600 jobs and a declining number of people studying in this field over the period 2004-2008. University enrolments were 831 in 2004 and 723 in 2008. Completions were 574 in 2004 and 564 in 2008.

ANZSCO: 2342

Chemists, and Food and Wine Scientists

Employment level	9500 A high proportion of workers (87.5%) are employed full-time.
6 digit employment (2006 Census)	234211 Chemist 4660 234212 Food Technologist 1070 234213 Wine Maker 1670
Employment growth	Over the five years to August 2010, employment increased by 0.8% (compared with growth of 12.1% for all occupations). Employment is expected to rise by 17.1% over the next five years (compared with projected growth of 9.5% for all occupations).
Unemployment rate	Below average (around 1.6%) compared with all occupations.
Educational profile	Around 61.8% have a Bachelor degree or higher qualification.
Vacancies	The Internet Vacancy Index (IVI) rose by 16.4% over the 12 months to September 2010 to 74.4 (March 2006=100). Vacancies for all occupations increased by 19.4%.
Gender	Around 31.0% of workers are female (compared with 45.4% for all occupations).
Labour turnover	Around 9.7% of workers leave this occupation in a year compared with 13.1% for all occupations.
Age profile	The median age is 46 years and 46.9% are aged 45 years and over (compared with 38.5% for all occupations).
Earnings	Median full-time weekly earnings (before tax) are high (\$1423).
Graduate outcomes	Graduate Careers Australia data show 78% of chemistry Bachelor degree graduates seeking full-time work were working four months after graduation. 28% of whom were working as Science Professionals, 16% as Agricultural, Medical and Science Technicians and 7% as Engineering Professionals. For those graduating with a Masters by research or a PhD, 88% were employed full-time, 65% of whom were working as Science Professionals, 7% as Managers and Administrators and 7% as Engineering Professionals.
Skill shortages	National shortages have not been identified by DEEWR research.

Labour market

234211 Chemist: Recruitment difficulties for Chemists were identified in early 2008 when the occupation was last assessed by DEEWR. Recruitment difficulties were apparent in some regional areas and in metropolitan locations for senior and specialist chemists. Overall, most employers filled their vacancies and attracted multiple suitable applicants per vacancy. However, due to increased specialisations within industry, some employers reported a widening gap between junior and senior specialist Chemist roles and a consequent difficulty attracting Chemists whose specialist skills met their needs.

More than 80% of Chemists hold a Bachelor degree or higher qualification. About 45% of employment is in the Manufacturing industry and 22% is in Professional, Scientific and Technical Services.

234212 Food Technologist: Not assessed

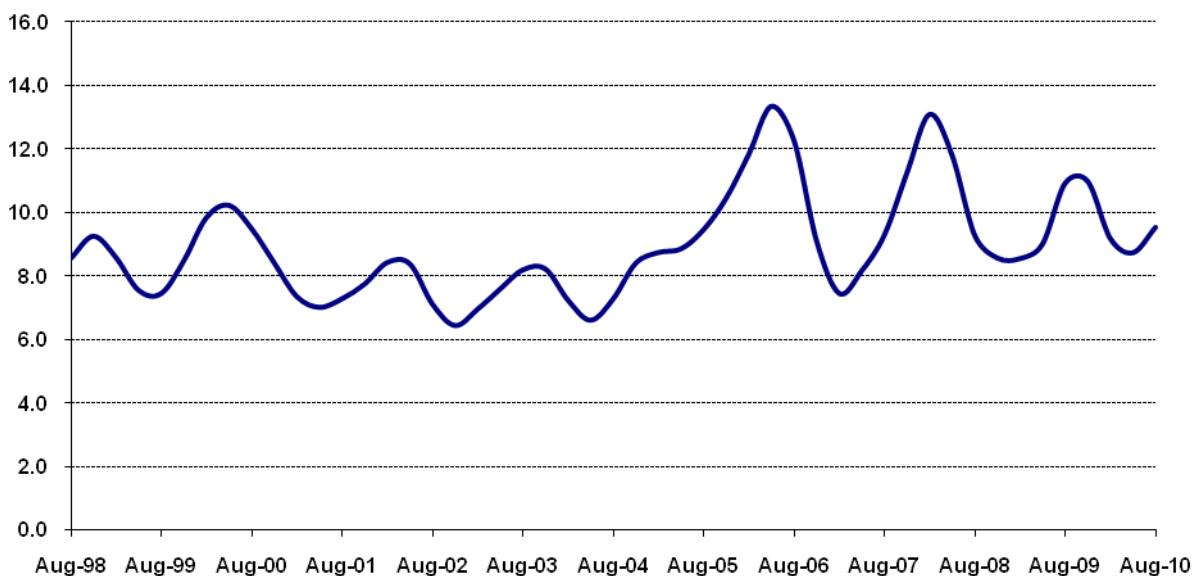
234213 Wine Maker: Not assessed

Summary

Employment in this occupation remained fairly steady overall over the past five years, but relatively strong growth is expected over the next five years. The workforce has a relatively old age profile suggesting strong replacement demand due to retirement over the next decade. However, some employers surveyed had highly specialised needs and despite attracting qualified applicants some vacancies remained unfilled.

Advertised vacancy levels have recovered over the past year but remain at relatively low levels. Unemployment is below average.

Chemists, and Food and Wine Scientists
Employed Persons ('000s) Aug 1998 to Aug 2010



Internet Vacancy Index (IVI) - 3 Monthly Average - Nov 2006 - Sept 2010
Chemists, and Food and Wine Scientists (March 2006 = 100)

