

# Chemical Technicians

SOC: 19-4031 • Career Profile Report

## ■ Key Facts

**\$57,790**

Median Salary

**57,000**

Employment

**+4.0%**

Growth Rate

## ■ Requirements & Salary Range

**Education:** Associate's degree

## ■ Automation Risk Assessment

**Low Risk** - 8.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

## ■■ Work-Life Balance

**5.3/10** - Fair work-life balance

## ■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	6.2/10	Investigative	9.4/10
Artistic	5.6/10	Social	6.4/10
Enterprising	4.8/10	Conventional	6.4/10

## ■ Top Skills Required

Analytical skills, Communication skills, Detail oriented, Interpersonal skills

### ✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

### ■ Challenges

- Burnout Risk
- Rapid Technological Change

## ■ What They Do

Chemical Technicians are laboratory and production professionals who support chemists and chemical engineers by **conducting experiments, analyzing substances, and monitoring chemical processes**. They work with chemicals, materials, and instruments to test products, ensure quality, and support research and manufacturing across industries such as pharmaceuticals, energy, plastics, food, and environmental services.

This career is well suited for individuals who enjoy hands-on lab work, precision, and applying scientific methods to real-world products and processes.

## What Do Chemical Technicians Do?

Chemical technicians carry out controlled tests and measurements to support research, development, and production.

Common responsibilities include:

- Preparing chemical solutions and samples
- Conducting laboratory tests and experiments
- Operating analytical instruments and lab equipment
- Collecting, recording, and interpreting test data
- Monitoring chemical production processes
- Maintaining laboratory equipment and supplies
- Following strict safety, quality, and documentation procedures

## Areas of Work and Specialization

Chemical technicians may work in different environments depending on industry:

- Analytical Laboratory Technicians: Test chemical composition and purity.
- Quality Control Technicians: Ensure products meet specifications and standards.
- Process or Production Technicians: Monitor chemical manufacturing operations.
- Research and Development Technicians: Assist with experimental and product development work.
- Environmental or Materials Technicians: Test air, water, soil, or material properties.

## Skills and Abilities Needed

Chemical technicians combine scientific accuracy with technical skill.

### ***Core Professional Skills***

### ***Personal Qualities That Matter***

## Education and Training Pathway

Most chemical technicians enter the field through technical education:

- Associate Degree or Bachelor's Degree: In chemistry, chemical technology, or a related field
- Laboratory Coursework: Hands-on experience with chemicals and instruments
- On-the-Job Training: Learning employer-specific methods and processes
- Safety Training: Instruction in chemical handling and hazard procedures
- Continuing Education: Updates on equipment, methods, and regulations

## Where Do Chemical Technicians Work?

Chemical technicians are employed across many science-based industries:

- Chemical and Pharmaceutical Manufacturing
- Research and Testing Laboratories
- Energy, Plastics, and Materials Companies

- Food and Beverage Processing Facilities
- Environmental Testing and Consulting Firms
- Government and Regulatory Agencies

Work environments include laboratories, pilot plants, and production facilities.

## How Much Do Chemical Technicians Earn?

Earnings vary by industry, education level, and responsibility:

- Entry-Level Technicians: Typically earn competitive technical wages
- Experienced or Specialized Technicians: Often earn higher pay with advanced skills
- Process or Quality Specialists: May earn more due to production responsibility

Compensation often includes benefits and advancement opportunities.

## Is This Career Difficult?

This career requires precision, consistency, and strong safety awareness. Chemical technicians must work carefully with hazardous substances and follow exact procedures. The challenge lies in maintaining accuracy under routine repetition while meeting quality and safety standards.

## Who Should Consider Becoming a Chemical Technician?

This career may be a strong fit if you:

- Enjoy chemistry and laboratory work
- Like hands-on scientific testing
- Are detail-oriented and methodical
- Prefer applied science over purely theoretical roles
- Want a technical career with broad industry options

## How to Prepare Early

- Take chemistry, math, and laboratory science courses
- Practice careful measurement and documentation
- Learn basic lab safety and chemical handling rules
- Gain experience through internships or lab assistant roles
- Explore chemistry or chemical technology programs

**Chemical technicians turn chemical theory into practical results, supporting research, quality, and production processes that power modern manufacturing, healthcare, and environmental protection.**

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Source: <https://www.bls.gov/ooh/life-physical-and-social-science/chemical-technicians.htm>