

LABOUR MARKET INFORMATION

CHEMICAL & PROCESS



WHAT IS THE CHEMICAL & PROCESS SECTOR?

Chemical and process careers involve working in industries focused on transforming raw materials into valuable products through chemical, physical, or biological processes. Roles in this sector include chemical engineers, process technicians, and safety specialists who work to optimise production, ensure safety, and improve efficiency in industries like pharmaceuticals, petrochemicals, food processing, and manufacturing.

These careers are critical to producing everyday items like fuels, plastics, medicines, and food. The work often involves designing and managing large-scale industrial processes, with a focus on innovation, sustainability, and minimising environmental impact.

DID YOU KNOW...

There are more than **1,400 companies** in Tees Valley are directly involved in the chemicals and process industry and the sector **exports £12billion of product, contributing £2.5billion a year to the local economy?**



The area is home to major companies such as **Sabic, INEOS, Venator, and CF Fertilisers.**

Approx...

12,000

people are directly employed in the **chemical and process industries** across the Tees Valley.



Teesport is one of the **UK's largest ports**, supporting **logistics for the chemical and process industries.**

Estimated...

10,000

jobs **by 2027** across various sectors, including **chemicals, energy and advanced manufacturing.**

It facilitates the import and export of **raw materials and finished products** for local manufacturers.

CHEMICAL & PROCESS

TEES
VALLEY

WHAT JOBS COULD YOU DO?



**BIOTECHNOLOGIST
& BIOENGINEER**



**ENERGY
ENGINEER**



CHEMIST



**CHEMICAL
PLANT PROCESS
OPERATOR**



**CHEMICAL
TECHNICIAN
& ENGINEER**



**HEALTH &
SAFETY ADVISER**



**LABORATORY
TECHNICIAN**



**QUALITY
ASSURANCE
SPECIALIST**



**RESEARCH
SCIENTIST**

WHERE ARE THE JOBS MOST NEEDED?



**PROCESS
ENGINEERS**



**CHEMICAL
ENGINEERS**



**ENVIRONMENTAL
SCIENTISTS**



**MAINTENANCE
ENGINEERS**



**HEALTH &
SAFETY
OFFICERS**



**PROJECT
MANAGERS**



**RESEARCH &
DEVELOPMENT
SCIENTIST**



**PLANT
OPERATORS**

LOCAL EMPLOYERS INCLUDE...

INEOS

 **CF Industries**



TEESPORT

سابک
sebic

HUNTSMAN

JM **Johnson Matthey**
Inspiring science, enhancing life

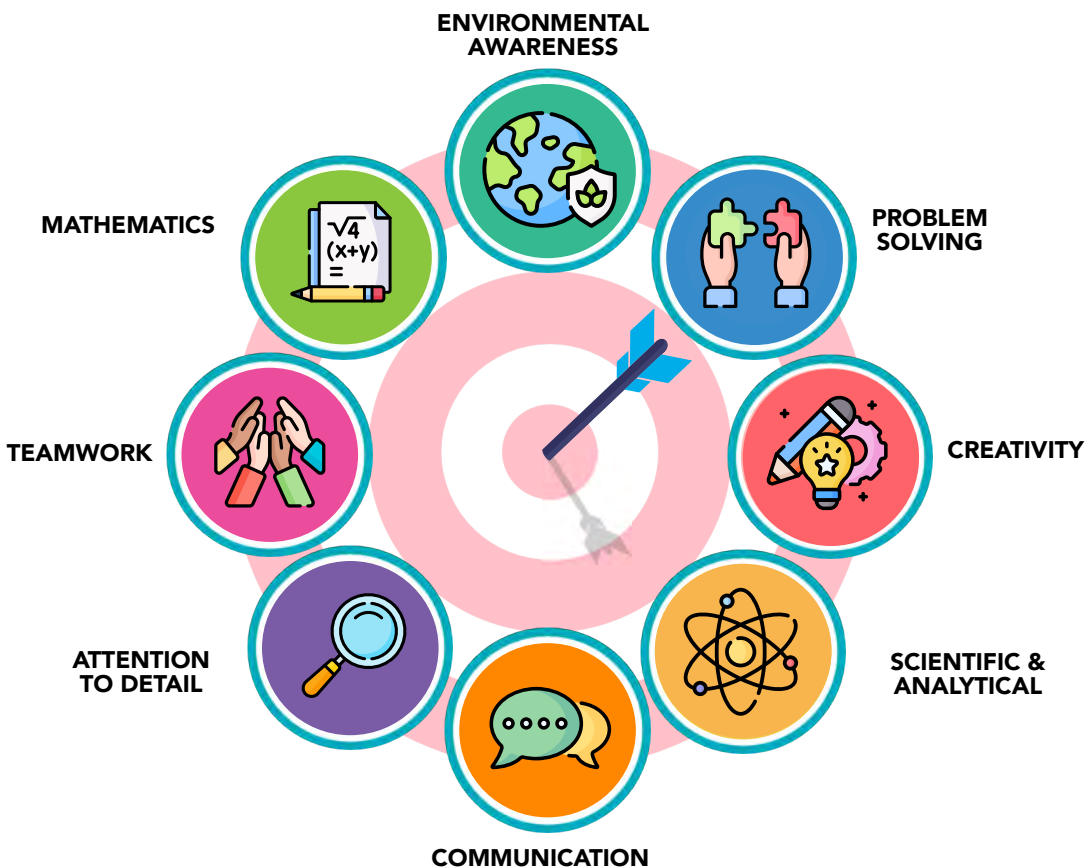
VENATOR

**TEES
VALLEY**

CHEMICAL & PROCESS

WHAT SKILLS CAN HELP YOU?

Chemical and process roles focus on efficiency and innovation, with success tied to adapting to new technologies and safety standards.



SKILLS IN ACTION



ENVIRONMENTAL AWARENESS

Ensure that processes minimise waste and pollution in line with sustainability goals.



PROBLEM SOLVING

Help find solutions for a plant's safety or efficiency issues.



CREATIVITY

Design a new way to make a chemical process more efficient or eco-friendly.



SCIENTIFIC & ANALYTICAL

Analyse data from a chemical process to identify trends or issues.



COMMUNICATION

Explain the results of an experiment or process change to the team.



ATTENTION TO DETAIL

Ensure precise measurements when mixing chemicals to avoid mistakes.



TEAMWORK

Work with engineers and operators to improve a production process.



MATHEMATICS

Use calculations to determine the right amount of chemicals for a process.

CHEMICAL & PROCESS

WHAT QUALIFICATIONS CAN HELP YOUR CAREER?

GCSE

SECONDARY SCHOOL



Maths: Critical for calculations and chemical processes.

Chemistry: Essential for understanding chemical reactions and materials.

Physics: Important for energy, materials science and processes.

Biology: Useful for roles in biochemistry and pharmaceuticals.

IT/Computer Science: For data analysis and process control.

English: Necessary for communication and safety documentation.

FURTHER EDUCATION



A-LEVELS

Chemistry: Central for understanding complex chemical processes, material properties and reactions.

Mathematics: Essential for tackling advanced chemical equations, data analysis and process control.

Physics: Provides a deeper understanding of energy systems, thermodynamics and materials.

Biology: Important for careers in pharmaceuticals, biotechnology, and bioprocessing.

VOCATIONAL COURSES

Applied Science: Practical skills in chemistry, biology, and physics, with lab work and industry focus.

Chemical Engineering: Hands-on training in chemical processing, plant operations and safety.

Process Engineering: Focus on manufacturing, automation and quality control.

T-LEVELS

Science (Lab Sciences): Mixes classroom learning with hands-on work in labs, teaching you research, experiments and data skills.

Engineering, Manufacturing, Processing & Control: Learn how machines work, from mechanics to electronics, plus safety and automation.

Maintenance, Installation & Repair for Engineering & Manufacturing: Get hands-on with fixing and optimising machines used in industries like chemicals and processing.

SCAN OR CLICK
THE QR CODE
TO EXPLORE
THE DIFFERENT
PATHWAYS





APPRENTICESHIPS

TEES
VALLEY

Process Technician:

Maintain and monitor chemical processes in manufacturing.

Click or Scan the QR code to visit the IfATE Occupational Maps to explore the different Apprenticeships available

Chemical Engineering Apprentice:

Gain hands-on experience in chemical plant operations.



Laboratory Technician:

Support testing and research in labs.



Control & Instrumentation Engineer: Work on automated systems and process controls.

HIGHER EDUCATION



UNDERGRADUATE DEGREE

Chemical Engineering (BEng/BSc):

Design and manage chemical processes in manufacturing.

Process Engineering (BEng/BSc):

Optimise processes for efficiency and safety.

Biochemistry (BSc): Study the chemical processes within living organisms.

Pharmaceutical Science (BSc): Focus on the development of drugs and medications.

PROFESSIONAL QUALIFICATIONS

Chartered Engineer (CEng): Professional recognition in engineering fields.

NEBOSH Certification: Health and safety training, important in chemical industries.

IChemE Membership: Accreditation for chemical engineers.

POSTGRADUATE DEGREE

Chemical Engineering (MSc): Advanced study of chemical processes and systems.

Process Engineering (MSc): Specialisation in process optimisation and control.

Biochemical Engineering (MSc): Focus on bio-based processes and technologies.

MORE INFORMATION

Scan or click on the QR codes to become more informed about the different jobs and education and training options available to you.

TEES VALLEY JOBS

Explore graduate roles, apprenticeships, or volunteering opportunities.

SCAN ME



NATIONAL CAREERS SERVICE

Explore over 750 different careers. Find out what a job involves and if it's right for you.

SCAN ME



ROYAL SOCIETY OF CHEMISTRY

Explore what a career in chemistry has to offer you and what steps you need to take to get there.

SCAN ME



TEES VALLEY KEY SECTORS

Explore what's happening across other sectors in the Tees Valley region.

SCAN ME



WHAT NEXT?

TEES
VALLEY

Name:

Date:

I would like to be:

The reasons I chose this are:

**Qualifications and training
required:**

Skills I have:

Skills I need to develop:

My next steps are:

Reviewing my progress: