Gas Testing involves testing for oxygen, toxic and flammable gases using portable gas detection equipment. It is an integral part of establishing a Safe System of Work.

The course provides gas testing knowledge to support competence. It leads to an AGT certification when supplemented by practical assessments.

Learning Methods
- e-learning

Course Duration:
- Level 1: 2 hours
- Level 2: 2.5 hours
- Level 3: 1 hour

Targeted Participants
AGT is divided into 3 levels, aimed at the following participants
AGT Level 1, AGT Level 2 and AGT Level 3.

- AGT Level 1 is targeted at those involved with performing a test for oxygen, flammable and toxic gases.
- AGT Level 2 is targeted at those involved with testing for flammable gas in preparation for hot work.
- AGT Level 3 targeted at those who monitor hot work sites

Business Benefits of E-learning
Our e-learning courses will improve your business efficiency and employee performance. They will also reduce training costs, and down time whilst improving knowledge retention and compliance.

Features
- Provides underpinning knowledge for the AGT1 unit of competence
- Workplace scenarios and case studies based on real life incidents
- Continuous assessment throughout course
- Automatic remediation of incorrectly answered questions
- High quality illustration-based animations
- Can be tailored to reflect a specific company’s procedures and methods
- Integrated trainee results management system
- SCORM™ 1.2 Compliant

Course Content
- Module 1: Introduction
- Module 2: Flammable Gases
- Module 3: Toxic Gases
- Module 4: Properties of Gases
- Module 5: Portable Gas Detection Equipment
- Module 6: Gas Testing Procedures
- Module 7: Confined Space Entry
- Module 8: Purging
- Module 9: Training and Competence
- Module 10: Worked Examples
Authorised Gas Testing

Learning Objectives

• Identify that hazardous gases and vapours may be found in the petrochemical industry
• Identify what Gas Testing involves
• Identify why Gas Testing is completed
• Identify the personnel that are responsible for completing Gas Testing
• Identify when Gas Testing is completed
• Define the words gas, vapour and liquid
• Define the term Lower Explosive Limit (LEL)
• Define the term Upper Explosive Limit (UEL)
• Define the Workplace Exposure Limit and explain how these limits help to control human exposure to toxic and hazardous substances
• Identify the importance of correctly fitting and maintaining PPE
• Explain the Lower and Upper Explosive Limits for common combustible hydrocarbon gases and explain which of these two values is the most important for gas testing purposes
• Explain the stages and effects of an explosion and how to avoid them
• Explain that certain gases in the petrochemical industry may be toxic and identify that the concentrations of toxic gases are expressed in ‘parts per million’ (ppm)
• Define the term Workplace Exposure Limit and explain how these limits help to control human exposure to toxic and hazardous substances
• Explain why enclosed areas with the potential for a gas leak need to be well ventilated
• Explain the different types of portable gas detectors that are available for use by Authorised Gas Testers
• Explain how catalytic-based portable gas detectors work, their suitability for various gases, and their limitations
• Explain how thermal and electrical conductivity-based portable gas detectors work, their suitability for various gases, and their limitations
• Explain that the different types of portable gas detectors may have their capabilities extended by using sampling attachments, such as tubes and probes
• Identify which type of portable gas detector is suitable for use in inert atmospheres
• Explain that the different types of portable gas detectors may have their capabilities extended by using sampling attachments, such as tubes and probes
• Identify what Aspirated Detectors are and explain how and when it is appropriate to use them
• Identify the basic checks and more general considerations that are required when using portable gas detectors
• Identify that temperature and condensation can adversely affect portable gas detectors
• Identify other key limitations of portable gas detectors
Authorised Gas Testing

- Identify the key causes of erratic indications, zero drift, and off-scale readings when using portable gas detectors and the actions to take to address these
- Explain that alarmed-warning systems on gas detectors let operators know when the presence of a selected gas is outside of acceptable limits
- Identify the typical flammable, toxic and oxygen gas levels that will activate the alarmed warning systems
- Identify what a Personal Gas Detector is and when it is appropriate to wear one
- Identify what a fixed gas detector is, where to position such a gas detector, and the methods that fixed gas detectors use to detect and measure gases and their limitations
- Identify that most process plants have the potential for a gas release to occur and outline the basic procedure for gas testing in the plant
- Identify what a hazardous area is and explain the hazardous area ‘Zone’
- Explain how gas testing supports work activities in the Permit to Work System via indicating and the use of initial and repeat gas testing, continuous gas monitoring and completion of associated documentation
- Explain the requirements for continuous gas monitoring
- Explain the requirements for practical gas testing
- Explain the actions to take if a gas leak is suspected
- Explain why it is important for Authorised Gas Testers to understand the limitations of fire and gas detection systems
- Define the term Confined Space and give examples of Confined Spaces
- Explain that hazardous concentrations of gases or vapours may build up in confined spaces and give examples of the gaseous hazard sources to be aware of
- Describe the basic requirements and procedures for gas testing the atmosphere of Confined Spaces before and after entry into these spaces
- Identify the concentration of oxygen normally found in the air and explain the basic concepts of oxygen deficiency and enrichment
- Identify when purging operations are required and the gas that is usually involved
- Identify the two main types of purging and give examples of each type
- Explain the purging process when de-commissioning and re-commissioning a vessel
- Describe the hazards and identify the problems that can occur when using nitrogen for purging
- Explain that Authorised Gas Testers are required to be trained and pass both a knowledge test and a practical assessment
- Explain that, to ensure competence, Authorised Gas Testers are required to undergo re-assessment of both knowledge and practical skills at specified intervals