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### Overview

This unit is about your competence in analysing samples to confirm quality.

This unit deals with the following:

- 1 Prepare to analyse samples
- 2 Analyse samples to confirm quality
- 3 Communicate results of analysis

During this work you must take account of the relevant operational requirements and safe working practices AS THEY APPLY TO YOU.

### Previous Version:

Adapted from Unit 11 of Refinery Field Operations NOS – version April 2005

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## Analysing samples in downstream operations

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### Performance criteria

*You must be able to:*

- P1 obtain containers appropriate for the sample material
- P2 ensure that containers obtained are clean before use
- P3 ensure that suitable analysis equipment is set up and cleaned correctly
- P4 ensure that the analysis equipment is fit for purpose
- P5 prepare for analysis in the appropriate designated area
- P6 ensure that the sample preparations match schedule, instructions and procedures
- P7 perform analyses in the appropriate designated area
- P8 analyse the samples in accordance with standard test method
- P9 leave equipment in a clean and safe condition ready for re-use
- P10 leave the work area in a safe and clean condition
- P11 retain the sample in accordance with procedures
- P12 ensure that retained samples are secure and labelled
- P13 complete all relevant documentation
- P14 identify abnormal readings and correctly reported them
- P15 inform the appropriate personnel that the samples have been analysed
- P16 work safely in accordance with operational requirements

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### Knowledge and understanding

*You need to know and understand:*

- K1 how to select, use and care for PPE (e.g. sight/hearing protection, gloves, footwear, hard hats, respirators)
- K2 the implications of statutory (e.g. HASAWA and COSHH) and organisational requirements
- K3 how to interpret operational requirements (e.g. policies, procedures, instructions, codes of practice, standards, schedules)
- K4 how to work with and within the Permit to Work system
- K5 how to ensure that analysis equipment is fit for purpose (to include type, accuracy, measurement range appropriateness to sample characteristics)
- K6 why it is essential to clean equipment
- K7 the incidents which might occur while analysing samples and the action to be taken
- K8 the principles of analysis
- K9 the importance of matching schedule and instructions when analysing samples
- K10 the location of the nearest safety equipment
- K11 how to secure and label samples
- K12 how to communicate effectively (to include clearly, accurately, promptly)
- K13 who to report abnormalities to
- K14 the likely consequences of recording inaccurately
- K15 the possible cause of unexpected results

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### Additional Information

#### Scope/range

Sample types within your work area e.g.:

- 1 Solids
- 2 Liquids
- 3 Hot
- 4 Cold
- 5 Gases toxic
- 6 Gases non-toxic
- 7 Pressurised
- 8 Flammable
- 9 Non-pressurised
- 10 Non-flammable

Analysis of samples within your work area e.g.:

- 11 Specific gravities
- 12 Concentrations
- 13 Conductivities
- 14 Colour
- 15 Ignition points
- 16 Viscosity
- 17 Gas presence
- 18 Penetrations
- 19 Boiling ranges

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**Relevant occupations** Engineering and manufacturing technologies; Engineering; Process, Plant and Machine Operatives; Plant and Machine Operatives

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**Suite** Downstream Operations

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**Key words** analysing, samples, prepare, confirm quality, communicate, results