



OIL, GAS AND PETROCHEMICALS TRAINING

Catalytic Reforming and Isomerisation

5 day course

Classroom, online or in-house

Course overview

Reformate and isomerate supply much of the octane in a typical gasoline pool, and both depend on platinum catalysts that are quickly poisoned by sulphur, nitrogen, water or a chloride imbalance. The programme opens with naphtha composition and the reactions that matter: dehydrogenation of naphthenes, dehydrocyclisation of paraffins, isomerisation and unwanted hydrocracking. Semi regenerative and continuous regeneration reformers are then compared, covering reactor temperature drops, hydrogen to hydrocarbon ratio, pressure and space velocity. Naphtha pretreating as a guard bed, chloride and water balance, coke burns and catalyst regeneration follow. Light naphtha isomerisation is studied next with chlorided alumina, zeolitic and sulphated zirconia catalysts and once through or recycle schemes. Unit engineers leave able to run both units for octane, hydrogen yield and run length.

What you will learn

- Explain the reforming reactions and how each affects octane and hydrogen yield
- Compare semi regenerative and continuous regeneration reformer designs
- Set reactor inlet temperatures, pressure and hydrogen ratio for a target octane
- Control chloride and water balance to keep catalyst activity
- Identify feed poisons and the pretreatment needed to remove them
- Plan catalyst regeneration and coke burn procedures
- Select an isomerisation scheme and catalyst for a given light naphtha
- Diagnose activity loss from reactor temperature drop and yield data

Who should attend

- Reformer and isomerisation unit operators
- Process engineers on naphtha upgrading units
- Refinery planners managing the octane pool
- Catalyst and technology vendor engineers
- Shift supervisors in light ends units

Course outline

- 01 Naphtha characterisation and octane
- 02 Reforming reactions and catalyst
- 03 Semi regenerative reformers
- 04 Continuous catalyst regeneration
- 05 Chloride, water and poison control
- 06 Catalyst regeneration and coke burns
- 07 Light naphtha isomerisation
- 08 Performance monitoring and troubleshooting

Upcoming dates

Dates	Venue	Format	Fee per delegate
12 to 16 October 2026	Online	Online	R8,500
1 to 5 March 2027	Dar es Salaam, Tanzania	Classroom	USD 1,325
8 to 12 March 2027	Durban, South Africa	Classroom	R19,950



Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriscience.co.za, or WhatsApp us on **+27 63 479 1136**.

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