



Flotation Chemistry Fundamentals

DURATION

5 days

CONTACT HOURS

30

LEVEL

Foundation

FEE PER DELEGATE

US\$1,500

The surface chemistry behind froth flotation, and what it means for reagents, water and recovery.

Flotation separates minerals on surface properties, so almost every recovery problem is a chemistry problem presenting as an operational one. This week builds the chemistry from the surface up: wettability and contact angle, the electrical double layer, how a collector attaches to a mineral and why it sometimes attaches to the wrong one. Reagent selection, water chemistry and pH control follow from that, and the troubleshooting session works real plant symptoms backwards to their chemical cause.

Available as classroom, live online, in house.

Who it is for

Metallurgists and process engineers, plant chemists and laboratory staff, flotation operators and supervisors, and reagent technical representatives.

What you will be able to do

- Explain flotation in terms of surface chemistry rather than recipe.
- Select collectors, frothers, depressants and activators on mineralogy.
- Diagnose the effect of pH, ionic strength and water quality.
- Relate laboratory testwork to plant performance.
- Trace a recovery or grade problem back to its chemical cause.

The outline

DAY 1

Surfaces

Hydrophobicity, contact angle and attachment · The electrical double layer and zeta potential · Mineral surfaces and their natural behaviour

DAY 2

Reagents

Collectors and their selectivity · Frothers and froth structure · Depressants, activators and modifiers · Dosage, staging and addition points

DAY 3

Water and pH

pH control and its effect on selectivity · Dissolved ions and recycled water · Water quality variation and its consequences

DAY 4

From bench to plant

Batch and locked cycle testwork · Scale up, and where it misleads · Sampling and assay reliability

DAY 5

Troubleshooting

Recovery loss by size fraction · Grade, and misreporting minerals · Froth problems and their chemical causes

What you leave with

- A reagent suite rationale for one ore type.
- A water chemistry review for your own circuit.
- A troubleshooting sequence for recovery loss.

Published dates

DATES	WHERE	FEE
23 to 27 November 2026	Dubai, United Arab Emirates	US\$1,500
30 November 2026 to 4 December 2026	Cairo, Egypt	US\$1,500
7 to 11 December 2026	Nairobi, Kenya	US\$1,500
14 to 18 December 2026	Kampala, Uganda	US\$1,500

Fees are per delegate and cover all materials and meals arranged by the delegate. Registration is free.

Register or ask a question

globalaxistraining.co.za/courses/flotation-chemistry-fundamentals
info@globalaxistraining.co.za
+27 72 337 9234

250 Beyers Naude Drive, Rustenburg, North West, 2999, South Africa

This copy was produced on 30 October 2026.