



IMPROVE CORROSION INHIBITOR MANAGEMENT

- ☐ Ensure optimal internal corrosion protection
- ☐ Maximise value and longevity of producing assets
- ☐ Save chemical costs on overdosed systems
- ☐ Improve operations, reduce system upsets

WHY CoMic™

- ☐ Helps to achieve **optimal inhibitor concentration**
- ☐ Enables **robust corrosion management**
- ☐ **Avoids unwanted cost** and separation difficulties (over-dosing)
- ☐ **More accurate** than field residual techniques (e.g. methyl orange)
- ☐ **Accounts for field changes** (such as solids production)
- ☐ Provides **independent data** on chemical management
- ☐ Suitable for **on-site** use, including offshore
- ☐ **Avoid sample degradation**
- ☐ Easy to use, can be **deployed by operator personnel**
- ☐ **Small footprint**
- ☐ **Unique technology**, based on micelle detection



CoMic™ compared to standard corrosion management tools

	CoMic™	Simple residual analyses e.g. methyl orange	Complex residual analyses e.g. LC-MS	Corrosion rate testing e.g. coupons, probes
Suitable for on-site use	✓	✓	✗	✓ (not all)
Reliable and accurate	✓	✗	✓	✓ (not all)
Robust to interferences (e.g. oil, scale inhibitors)	✓	✗	✓	✗ (not all)
Indicates if inhibitor dosage is optimal	✓	✗	✗	✗
Indicates inhibitor over-dosing	✓	✗	✗ ✓	✗

OPTIMUM INHIBITOR DOSAGE

Chemical corrosion inhibitors are routinely used to protect process equipment and pipeline infrastructure. It's difficult to establish optimum dosage levels, as conditions can change rapidly in the field. While underdosing can increase the risk of corrosion, adding more inhibitor is not always a solution. That's because surplus chemicals may offer no additional protection, and can cause emulsion build-up and complex separation issues which are time-consuming and expensive to resolve.

THE ANSWER

CoMic™ is revolutionary technology which provides information on optimal dosage of corrosion inhibitors. It's a combined technology and service covering consumable markers, our customised equipment, and critical data analysis. It provides significantly increased risk assurance in relation to internal corrosion, premature loss of containment and life extension. In our opinion, you can't afford to be without it.

MEET THE MICELLE

A micelle is a nanoscale cluster of corrosion inhibitor floating around in fluid. They form at the Critical Micelle Concentration (CMC). In oilfield systems, micelles form when every surface in the pipe structure has been coated, and the inhibitor starts to group together. The ideal functional dose of corrosion inhibitors is therefore the point where micelles begin to form in a system, but before there are too many. CoMic™ is the only readily available technology for accurately measuring corrosion inhibitor micelles in the field.

HOW IT'S USED

CoMic™ is used on-site, avoiding sample degradation caused in transit. The process is uncomplicated – a water sample is mixed with a marker and analysed with our proprietary instrument. Data is transmitted to LUX Assure where our personnel further perform the analysis, providing a detailed service report highlighting key recommendations leading to informed management decisions.

UNDER-DOSED SYSTEMS

improving integrity management with solutions such as CoMic™ helps mitigate the risk of incurring high costs and replace infrastructure

Pipelines cost up to \$3m per KM to replace

OVER-DOSED SYSTEMS

improving integrity management with solutions such as CoMic™ helps optimise inhibitor dosage, enabling significant chemical cost savings

For one customer savings of >\$0.4M a year are anticipated