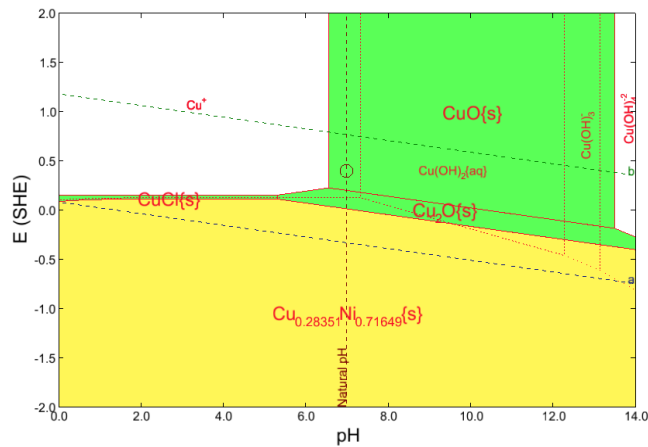


## The Analyzer Studio: Corrosion Analyzer



OLI's Corrosion Analyzer™ allows users to address the cause of electrolyte-based corrosion by understanding and predicting the corrosion environment.

This is in contrast to most corrosion treatments that address the symptoms by measuring corrosion rates, determining life expectancy and periodically replacing corroded material and equipment.

With Corrosion Analyzer™, you can investigate and determine causes of corrosion before it happens, evaluating and implementing preventive actions. This includes choosing correct operating conditions and corrosion resistant materials.

## FEATURES

- Pourbaix Diagrams**

Graphical depiction of EH vs. pH for any mixture of chemicals in water or mixed solvents is available to evaluate stable and metastable corrosion and redox products. Real-solution chemistry is used at real operating conditions, accounting for all activity coefficients, and assessing the effect of passivating species without any simplifying assumptions. Alloy support is virtually unlimited for Fe-Cr-Ni-Mo-C-N and Cu-Ni alloys.
- Stability Diagrams**

Flexible selection of independent variables and graphical depiction of local and global equilibria in various projections are available. Depictions include EH vs. composition and composition vs. pH for any chemical mixture, including trace components, to assess stable and metastable species in real solutions.
- Rates of Corrosion**

Corrosion rates can be predicted rigorously for most aqueous solutions in contact with a large, growing list of specific alloys, including various grades of carbon steels, stainless steels, Ni-based alloys, Cu-Ni alloys, and aluminum.
- Polarization Curves**

Calculations and display of polarization curves to support the rates calculations are available. The polarization curves show the rate at which the reactions at the metal surface are proceeding. Each partial anodic and cathodic process is predicted. The sum of all the reactions results in the net current, or polarization curve.
- Prediction of Pitting**

The corrosion and repassivation potentials are calculated. In regions where the corrosion potential is larger than the repassivation potential for pitting, localized corrosion will occur.

# PRODUCT DESCRIPTION

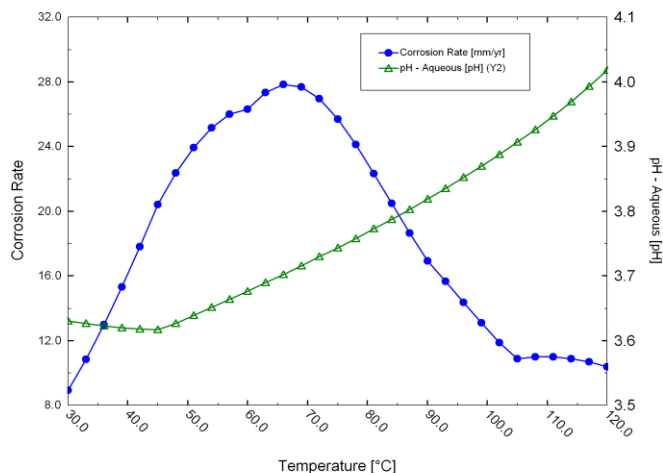
## CORROSION ANALYZER

### APPLICATIONS

- Screening to focus lab and plant tests
- “Hot spots” for sensor locations
- Useful remaining service life
- Process changes and corrections actions testing
- Lab and plant screening sensitivity studies
- pH, composition, and temperature effects
- Failure diagnosis and avoidance

### FOR SUPPORTED ALLOYS

Carbon steels, 254SMO, 304, 316L, 13Cr, C-22, C-276, 625, 825, 600, 690, Ni, Cu, and Al.



### CAPABILITIES

- Automatic inclusion of corrosion and redox chemistry  
Elemental and alloy metal oxidation and the reduction reactions for 79 inorganic elements and thousands of species are available in the OLI Databank. The Corrosion Analyzer automatically generates the redox reactions and the resulting species and solves for equilibrium conditions using its predictive thermodynamic model.
- Kinetic parameters of corrosion  
Calibrated against literature and field data
- Electrical conductivity and oxidation-reduction potential (ORP)  
Rigorous prediction of electrical conductivity and ORP for multicomponent systems is computed for aqueous solutions
- Real-Solution Calculations  
Non-ideal behavior modeled with activity coefficients for complex, high ionic strength systems. Based on the combined work of Bromley, Zemaitis, Meissner, Pitzer and OLI technologists

### RELATED PRODUCT

OLI Stream Analyzer is included with OLI Corrosion Analyzer in the Analyzer Studio

	PHONE	ADDRESS	EMAIL
CONTACT US	973.539.4996	OLI Systems, Inc.	<a href="mailto:oli.info@olisystems.com">oli.info@olisystems.com</a>
	<b>SALES</b>	108 American Road	<a href="mailto:oli.support@olisystems.com">oli.support@olisystems.com</a>
	973.998-0240	Morris Plains, NJ	<a href="mailto:oli.sales@olisystems.com">oli.sales@olisystems.com</a>
	<b>FAX</b>	07950	<a href="http://www.olisystems.com">www.olisystems.com</a>
	973.539.5922		