



ENERGY & RESOURCES

Corrosion Inhibitors

Effective solutions for maximize protection and minimize corrosion.

INDORAMA
VENTURES

Indispensable Chemistry



Corrosion Inhibitors

Corrosion is an inherent problem in the oil production process, damaging equipment, pipes and compromising operator safety. In order to prevent this, film forming corrosion inhibitors are highly used, retarding the corrosion rates and ensuring a safer extraction process.

Primary Corrosion Inhibitors are the main active agents used to prevent and mitigate corrosion of metal surfaces in contact with corrosive environments and are represented in our portfolio by **SURFONIC® OFC Series**.

Secondary Corrosion Inhibitors are used in synergy with primary inhibitors to enhance overall corrosion protection. Our portfolio of secondary Corrosion Inhibitors are represented by **ULTROIL® CI Series**.



SWEET

Corrosion originated by CO_2 in reservoir or injected



SOUR

Corrosion originated by sulfate-reducing bacteria



OXYGEN

Corrosion originated by O_2 dissolved in water



SURFONIC[®] OFC 100

A unique primary corrosion inhibitor imidazoline based

Imidazolines have been a staple in industrial applications for decades, primarily due to their performance in high pressure and high-temperature (HPHT) conditions and oil solubility. Moreover, imidazoline chemistry is essential for producing one of the most widely used types of film-forming organic corrosion inhibitors in the oil and gas industry.

FEATURES & BENEFITS



High active content



High temperature

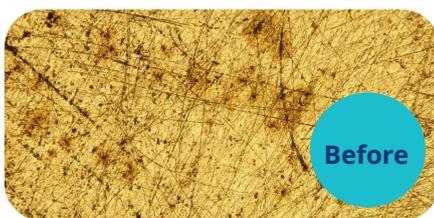
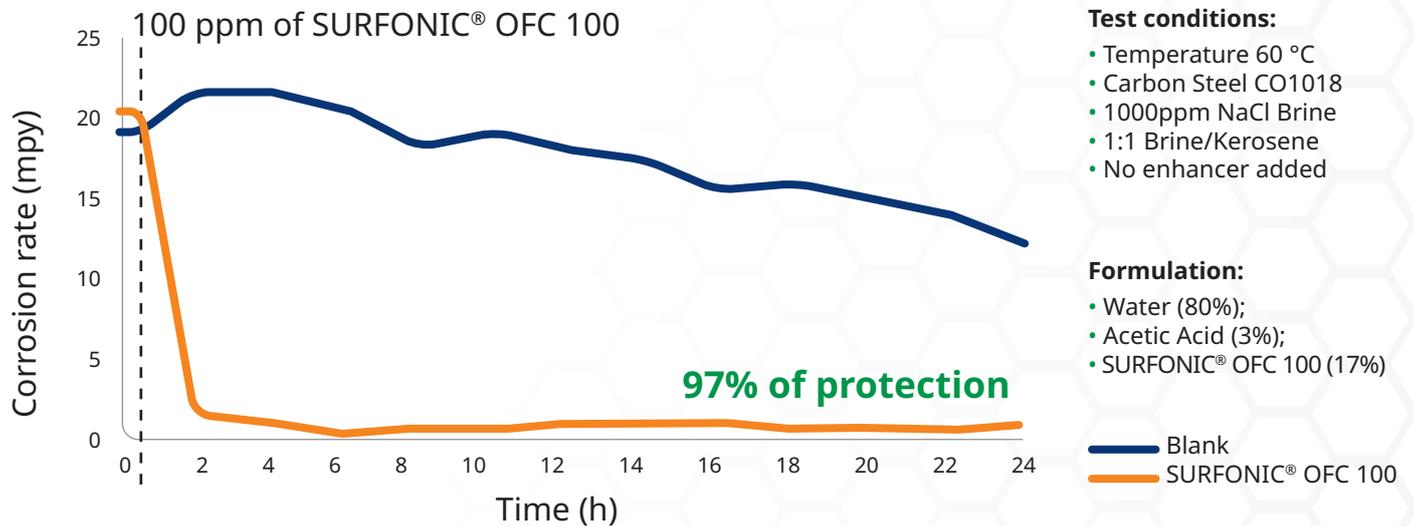


Suitable for Sweet (CO₂), Sour (H₂S) and Oxygen (O₂) corrosion



Concise film forming, protecting the metal surface

PRODUCT PERFORMANCE (Sweet CO₂) - BUBBLE TEST



Before

Blank



After 24h

Blank



After 24h

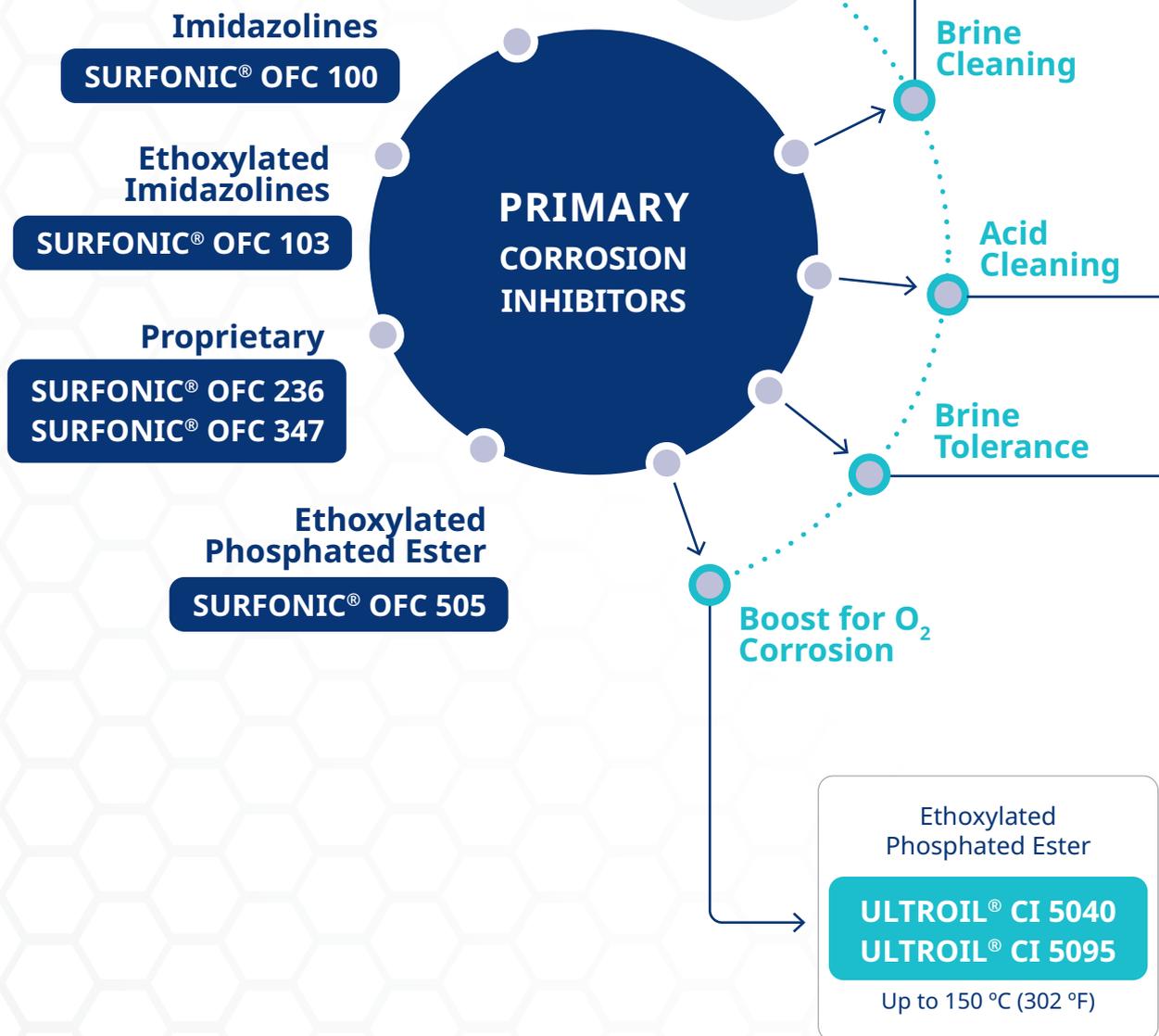
SURFONIC[®] OFC 100

Magnification 10x
Olympus BX51

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PRODUCT GUIDELINE

Our product guidelines are designed to provide clear and comprehensive instructions on how to choose the right product from our corrosion inhibitor portfolio and maximize its benefits. The guidelines are divided into two sections – **PRIMARY** and **SECONDARY** – covering everything from initial setup and basic usage to troubleshooting and customer support. If you have any questions or need further assistance, please do not hesitate to contact our support team.



Oil Soluble

Ethoxylated
Coco-amines

ULTROIL® CI 1020
ULTROIL® CI 1050

Oil Soluble /
Water Dispersible

Ethoxylated
Tallow-amines

ULTROIL® CI 2020

Up to 80 °C (176 °F)

ULTROIL® CI 2050

> 150 °C (302 °F)

Water Soluble

Ethoxylated
Tallow-amines

ULTROIL® CI 2080

ULTROIL® CI 2100

ULTROIL® CI 2120

ULTROIL® CI 2150

ULTROIL® CI 2200

> 150 °C (302 °F)

Oil Soluble /
Foam Control

Propoxylated
Tallow Diamines

ULTROIL® CI 3055

> 150 °C (302 °F)

Water Dispersible

Ethoxylated Tallow
Diamines

ULTROIL® CI 3050

> 150 °C (302 °F)

Water Soluble

Ethoxylated Tallow
Diamines

ULTROIL® CI 3100

ULTROIL® CI 3150

> 150 °C (302 °F)

ULTROIL[®] CI 5095

Alkyl phosphate ester corrosion inhibitor

Phosphate ester derivatives are an interesting class of film-forming chemicals that can be used as boosters in corrosion inhibitor formulations. Their greater solubility in aqueous systems makes them an alternative for certain formulations.

FEATURES & BENEFITS



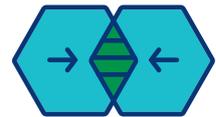
High active content



High temperature

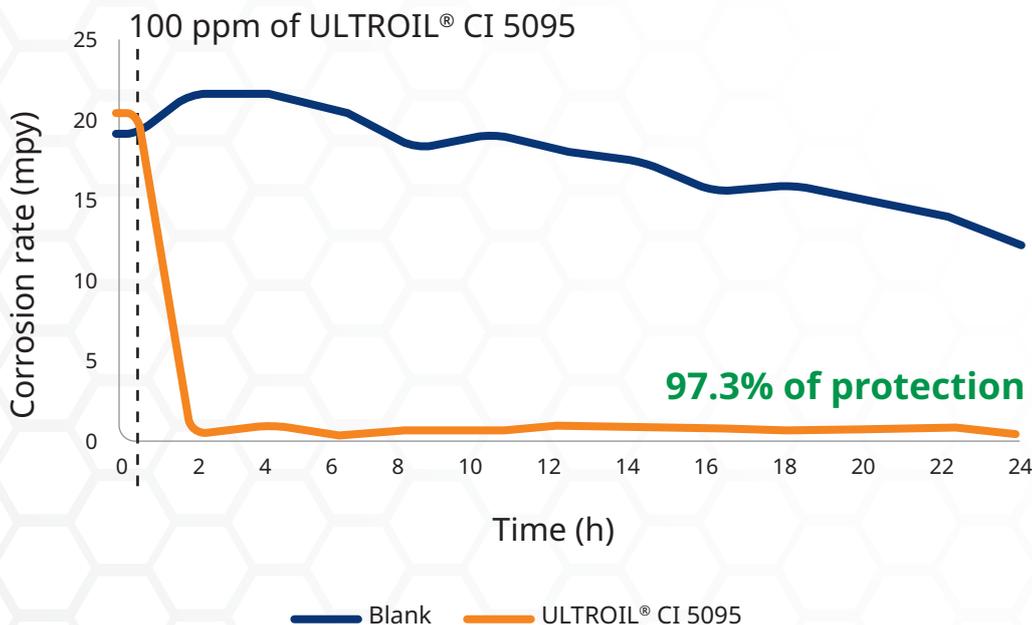


Inhibition booster



Synergistic effect

PRODUCT PERFORMANCE (Sweet CO₂) - BUBBLE TEST



Test conditions:

- Temperature 60 °C
- Carbon Steel CO1018
- 1000ppm NaCl Brine
- 1:1 Brine/Kerosene
- No enhancer added

Formulation:

- Water (80%);
- Acetic Acid (3%);
- ULTROIL[®] CI 5095 (17%)

TECHNICAL DATASHEET

Product	Corrosion type			Special properties		Additional Properties	pH ^a	Physical Form (20 °C)	Flash Point (°C (°F))	Viscosity (cP @25 °C)	Solubility ^b				
	Sweet (CO ₂)	Sour (H ₂ S)	Oxygen (O ₂)	High Temp.	High Brine						Water	Ethanol	MEG	Hexane/Heptane	Kerosene

Primary Corrosion Inhibitors

Imidazolines

SURFONIC® OFC 100	●	●	●			High Imidazoline Content	10	Liquid	(> 175 (>347))	160	I	S	S	S	S
SURFONIC® OFC 103	●	●	●			Ethoxylated imidazoline	11	Liquid	(> 175 (>347))	1500	I	S	S	S	S

Proprietary

SURFONIC® OFC 236	●	●	●	●		Specialty blend	12	Liquid	(> 185 (>365))	621	I	S	I	I	I
SURFONIC® OFC 347	●	●	●	●		Specialty blend	12	Liquid	(> 185 (>365))	691	I	S	I	I	I

Phosphated Ester

SURFONIC® OFC 505	●	●	●		●	Sustainability appeal	3	Liquid	(> 138 (>280))	533	S	S	S	S	S
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Secondary Corrosion Inhibitors

Ethoxylated Coco Amines

ULTROIL® CI 1020	●	●				Cleaning Properties	10	Liquid	(198 (388))	95	P	S	I	S	S
ULTROIL® CI 1050	●	●				Cleaning Properties	10	Liquid	(135 (275))	106	S ^c	S	S	S	S

Ethoxylated Tallow Amine

ULTROIL® CI 2020	●	●				Acid Cleaning	11	Liquid	(216 (421))	3950	P	S	S	S	S
ULTROIL® CI 2050	●	●				Acid Cleaning	10	Liquid	(> 260 (> 500))	100	S ^c	S	S	S	S
ULTROIL® CI 2080	●	●		●		Acid Cleaning	10	Liquid	(126 (259))	160	S	S	S	S	S
ULTROIL® CI 2100	●	●		●		Acid Cleaning	10	Liquid	(> 260 (> 500))	140	S	S	S	S	S
ULTROIL® CI 2120	●	●		●		Acid Cleaning	10	Liquid	(> 260 (> 500))	200	S ^c	S	S	S	S
ULTROIL® CI 2150	●	●		●		Acid Cleaning	10	Liquid	(180 (356))	200	S ^c	S	S	I	I
ULTROIL® CI 2200	●	●		●		Acid Cleaning	10	Liquid	(> 200 (> 392))	370	S ^c	S	S	I	I

Alkoxyated Tallow Diamine

ULTROIL® CI 3050	●	●		●		Formulation Aid	13	Liquid	(124 (255))	600	S ^c	S	S	S	S
ULTROIL® CI 3055	●	●		●		Low Foam / Emulsion & Acid Cleaning	11	Liquid	(100 (212))	350	P	S	I	S	S
ULTROIL® CI 3100	●	●		●	●	Formulation Aid	11	Liquid	(>94 (> 201))	230	S ^c	S	S	S	S
ULTROIL® CI 3150	●	●		●	●	Formulation Aid	12	Liquid	(> 200 (> 392))	220	S ^c	S	S	I	I

Phosphated Ester

ULTROIL® CI 5040	●	●	●			Inhibitor Booster	2	Liquid	(> 150 (> 302))	3800	S ^c	S	I	I	P
ULTROIL® CI 5095	●	●	●	●		Inhibitor Booster	2	Viscous liquid	(> 150 (> 302))	1900	P ^c	S	I	S	S

^a 1 wt% in 10:6 IPA:Water

^b Solubility values obtained with 50 wt% of inhibitor

^c Solubility values obtained with 25 wt% of inhibitor

S – Soluble **P** – Partially Soluble **I** – Insoluble



DISCLAIMER

This information is provided in good faith, based on Indorama Ventures' current knowledge of the subject and is purely indicative. No information, including suggestions for using the products, should preclude experimental testing and verification, which are essential to ensuring the suitability of the products for each specific application. Consult the contact from your region or country regarding the availability of each product. All users must also respect local laws and obtain all the necessary permits. When handling the product, consult the safety data sheet. If you have any questions or additional needs, please contact Indorama Ventures through our customer service channels.

SEPTEMBER/25.