



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 CO₂ in reservoir or injected



SOUR

Corrosion originated by sulfate-reducing bacteria



OXYGEN

Corrosion originated by O₂ 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





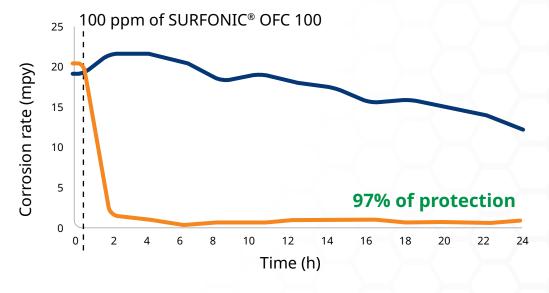


Suitable for Sweet (CO₂), Sour (H₂S) and Oxygen (O₂) corrosion



Concise film forming, protecting the metal surface

PRODUCT PERFORMANCE (Sweet CO₂) - BUBBLE TEST



Test conditions:

- Temperature 60 °C
- Carbon Steel CO1018
- 1000ppm NaCl Brine
- 1:1 Brine/KeroseneNo enhancer added

Formulation:

- · Water (80%);
- · Acetic Acid (3%);
- SURFONIC® OFC 100 (17%)



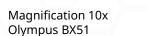


After 24h

Blank



SURFONIC® OFC 100







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.

SECONDARY CORROSION **INHIBITORS Imidazolines** Brine Cleaning **SURFONIC® OFC 100 ULTROIL® CI 2020 Ethoxylated Imidazolines PRIMARY** Acid **SURFONIC® OFC 103 CORROSION** Cleaning **ULTROIL® CI 2050 INHIBITORS Proprietary SURFONIC® OFC 236** Brine **SURFONIC® OFC 347 Tolerance** Ethoxylated Phosphated Ester **SURFONIC® OFC 505** Boost for O, Corrosion Ethoxylated Phosphated Ester

> **ULTROIL® CI 5040 ULTROIL® CI 5095**

Up to 150 °C (302 °F)

Oil Soluble

Ethoxylated Coco-amines

ULTROIL® CI 1020 ULTROIL® CI 1050

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

Oil Soluble /

Water Dispersible

Ethoxylated

Tallow-amines

Up to 80 °C (176 °F)

> 150 °C (302 °F)

ULTROIL® CI 3050

> 150 °C (302 °F)

Water Soluble

Ethoxylated Tallow Diamines

ULTROIL® CI 3100 **ULTROIL® CI 3150**

> 150 °C (302 °F)

INDORAMA



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

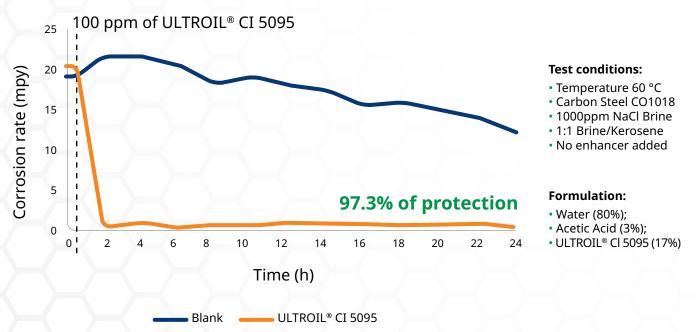


Inhibition booster



Synergistic effect

PRODUCT PERFORMANCE (Sweet CO_2) - BUBBLE TEST



TECHNICAL DATASHEET

Product		Corrosion type			cial erties						Solubility ^b				
	Sweet (CO ₂)	Sour (H ₂ S)	Oxygen (O ₂)	High Temp.	High Brine	Additional Properties	рНª	Physical Form (20°C)	Flash Point (°C (°F))	Viscosity (cP @25 °C)	Water	Ethanol	MEG	Hexane/Heptane	Kerosene
Primary Corrosion I	nhibi	tors													
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 Es	ter														
SURFONIC® OFC 505	•	•	•		•	Sustainability appeal	3	Liquid	(> 138 (>280))	533	S	S	S	S	S
Secondary Corrosion															
Ethoxylated Co		ATTIII	nes		1	Classica Busanatia	10	1.11-1	(400 (200))	0.5			·		
ULTROIL® CI 1020 ULTROIL® CI 1050						Cleaning Properties Cleaning Properties	10 10	Liquid	(198 (388)) (135 (275))	95 106	P S ^c	S	I S	S	S
Ethoxylated Tal	low	۸m	ine			Cleaning Properties	10	Liquid	(133 (273))	100	3-	3	3	3	3
ULTROIL® CI 2020	T					Acid Cleaning	11	Liquid	(216 (421))	3950	D	c	c	c	
ULTROIL® CI 2050	•					Acid Cleaning Acid Cleaning	11 10	Liquid Liquid	(216 (421)) (> 260 (> 500))	100	P S ^c	S	S	S	S
ULTROIL® CI 2080						Acid Cleaning 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	Sc	S	S	S	S
ULTROIL® CI 2150	•	•		•		Acid Cleaning	10	Liquid		200	Sc	S	>	I	I
	•	•		•		Acid Cleaning Acid Cleaning	10 10	Liquid Liquid	(180 (356))	200 370	S ^c	S	S	I	
ULTROIL® CI 2200	low	• Dia	mir	• •		Acid Cleaning Acid Cleaning		Liquid Liquid		200 370					I
ULTROIL® CI 2200 Alkoxylated Tal	I	Dia	mir	l		Acid Cleaning	10	Liquid	(180 (356)) (> 200 (> 392))	370	S ^c	S	S	I	I
ultroil® CI 2200 Alkoxylated Tal ultroil® CI 3050	low	Dia	mir	• • •		Acid Cleaning Formulation Aid Low Foam / Emulsion		·	(180 (356))						S
ULTROIL® CI 2200 Alkoxylated Tal ULTROIL® CI 3050 ULTROIL® CI 3055	•	Dia	mir	l	•	Acid Cleaning Formulation Aid	10	Liquid Liquid	(180 (356)) (> 200 (> 392)) (124 (255))	370 600	S ^c	S	S	I S	
ULTROIL® CI 2200 Alkoxylated Tal ULTROIL® CI 3050 ULTROIL® CI 3055 ULTROIL® CI 3100	•	Dia	mir	•	•	Acid Cleaning Formulation Aid Low Foam / Emulsion & Acid Cleaning	10 13 11	Liquid Liquid Liquid	(180 (356)) (> 200 (> 392)) (124 (255)) (100 (212))	370 600 350	S ^c S ^c P	S S S	S	I S S	S
ULTROIL® CI 2200 Alkoxylated Tal ULTROIL® CI 3050 ULTROIL® CI 3055 ULTROIL® CI 3100 ULTROIL® CI 3150	•	Dia	mir	•		Acid Cleaning Formulation Aid Low Foam / Emulsion & Acid Cleaning Formulation Aid	10 13 11 11	Liquid Liquid Liquid Liquid	(180 (356)) (> 200 (> 392)) (124 (255)) (100 (212)) (>94 (> 201))	600 350 230	S ^c S ^c P S ^c	s s s	S S I S	I S S	S
ULTROIL® CI 2150 ULTROIL® CI 2200 Alkoxylated Tal ULTROIL® CI 3050 ULTROIL® CI 3055 ULTROIL® CI 3100 ULTROIL® CI 3150 Phosphated Es ULTROIL® CI 5040	•	Dia	mir	•		Acid Cleaning Formulation Aid Low Foam / Emulsion & Acid Cleaning Formulation Aid	10 13 11 11	Liquid Liquid Liquid Liquid	(180 (356)) (> 200 (> 392)) (124 (255)) (100 (212)) (>94 (> 201))	600 350 230	S ^c S ^c P S ^c	s s s	S S I S	I S S	S

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



b Solubility values obtained with 50 wt% of inhibitor 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.