



## Octo-RO Polymers



## Octo-RO

### ANTISCALANTS FOR RO APPLICATION



As part of an effective Reverse Osmosis (RO) Water Treatment program, polymeric antiscalants help inhibit the precipitation of mineral scales like calcium carbonate, calcium sulfate, calcium phosphate, barium sulfate, silica and silicate scale. RO Systems are vulnerable to scale formation that leads to reduced output and more frequent shut-downs for maintenance.

An antiscalant is a pre-treatment injected into the feedwater before the feedwater enters the RO membranes. As the water is being purified, the polymer delays the reaction between calcium, magnesium and bicarbonate, thus preventing scale from forming.

A good antiscalant offers a range of functions, such as altering crystal morphology, showing threshold inhibition, and aiding dispersion of scale crystals already formed.

This ultimately has the following benefits:

- **Cleaner system**
- **Better heat transfer**
- **Longer membrane and equipment life**

The key to good RO operation is a well maintained pretreatment system.

Tiarco Chemical is pleased to offer a range of products, **Octo-RO**, for scale control in membrane applications. These new products have been specifically designed for control of calcium carbonate, calcium sulfate, and calcium phosphate.

The information provided herein is believed to be reliable; however, no guarantees are made or liability assumed. Tiarco Chemical makes no claims or warranties concerning the suitability of the product for a particular use or purpose.

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# Octo-RO 101

## FUNCTIONALIZED MALEIC COPOLYMER

### Description:

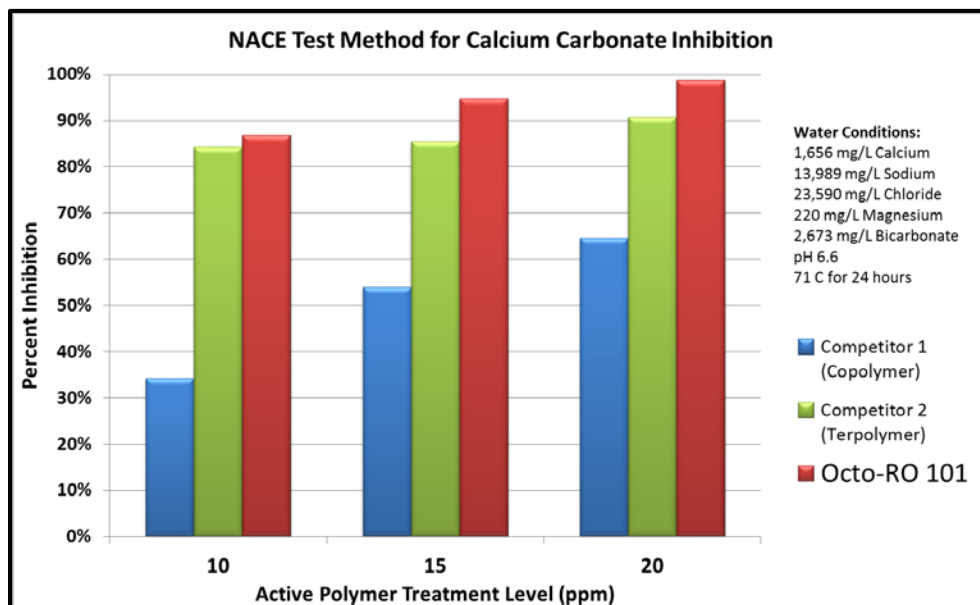
**Octo-RO 101** is a low molecular weight functionalized maleic copolymer, and as such shows excellent effectiveness in:

- Scale prevention in Reverse Osmosis (RO) systems
- Controlling mineral scale formation (calcium carbonate and calcium sulfate scales) in industrial water treatment systems.
- Dispersing mineral/pigments

### Typical Properties:

Total Solids %	40.0 - 42.0
pH, neat	5.0 - 7.0
Specific Gravity	1.22 - 1.30
Brookfield Viscosity, cps	10 - 500
Molecular Weight, avg	~ 5000

**Octo-RO 101** efficiently prevents precipitation of calcium carbonate.



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## Octo-RO 102

UNIQUE POLYMALEIC ACID

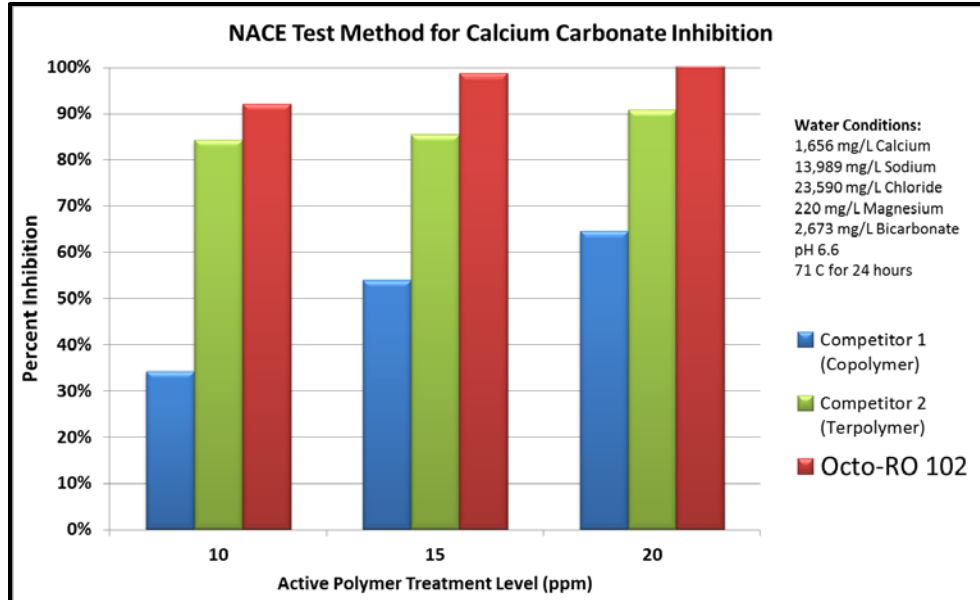
### Description:

**Octo-RO 102** is a polymaleic acid. **Octo-RO 102** is highly effective as a calcium carbonate scale inhibitor/crystal modifier in Reverse Osmosis (RO) application as well as industrial cooling water treatment.

### Typical Properties:

Total Solids %	47.0 - 53.0
pH, neat	1.0 - 2.0
Specific Gravity	1.15 - 1.20
Molecular Weight, avg	~ 650

**Octo-RO 102** efficiently prevents precipitation of calcium carbonate.



**21 CFR 173.310**  
**21 CFR 173.45**

Boiler Water Additives  
 Polymaleic Acid and its Sodium Salts for Sugar Processing

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# Octo-RO 201

## POLYACRYLIC ACID

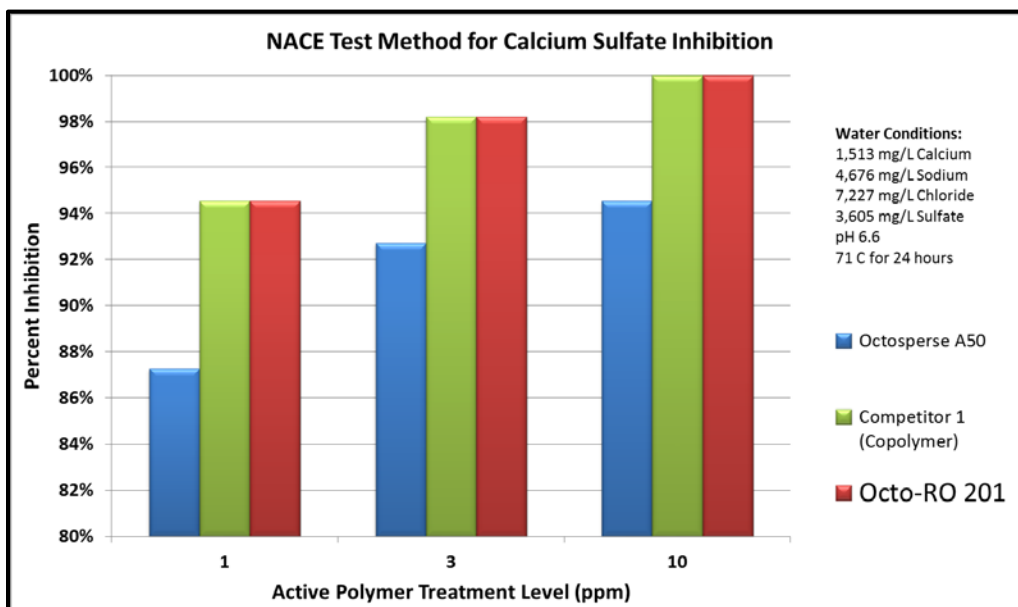
### Description:

**Octo-RO 201** is a low molecular weight polyacrylic acid designed for the control of calcium sulfate, calcium carbonate, and calcium oxalate scale in Reverse Osmosis (RO) application as well as industrial cooling water treatment.

### Typical Properties:

Total Solids %	49.0 - 51.0
pH, neat	3.0 - 5.0
Brookfield Viscosity, cps	100 - 1000
Molecular Weight, avg	~ 4000

**Octo-RO 201** prevents precipitation of calcium sulfate.



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# Octo-RO 301

## FUNCTIONALIZED ACRYLIC POLYMER

### Description:

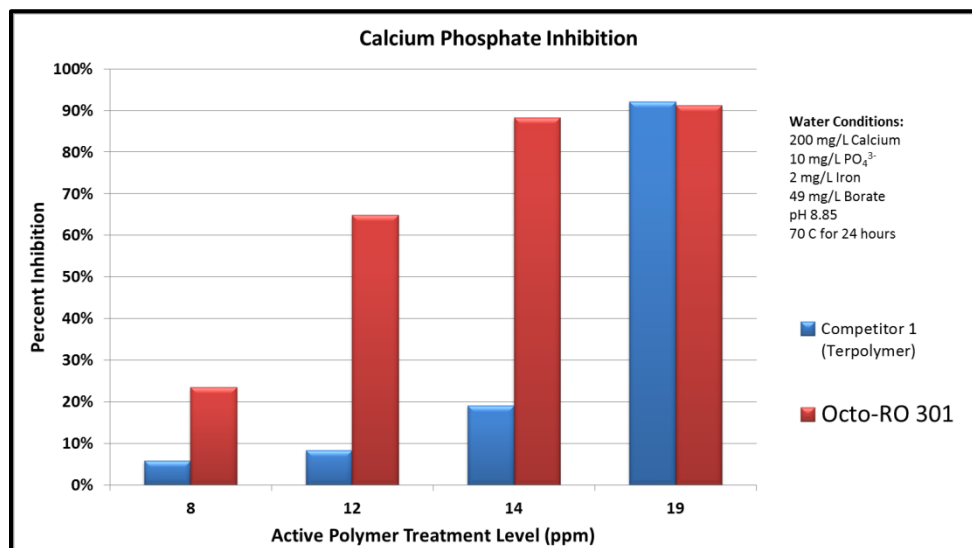
**Octo-RO 301** is a sulfonated terpolymer designed to provide excellent calcium phosphate scale inhibition. Due to its unique chemical composition it will also perform as a dispersant for iron oxide (hydrated), and as a stabilizer for zinc.

**Octo-RO 301** maintains performance under stressed cooling water conditions, and the polymer shows good thermal stability when used in boiler water formulations at high temperature, pressure, and pH.

### Typical Properties:

Total Solids %	42.0 - 45.0
pH, neat	3.0 - 4.0
Specific Gravity	1.2
Brookfield Viscosity, cps	100 - 1000
Molecular Weight, avg	~ 7000

**Octo-RO 301** prevents precipitation of calcium phosphate.



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