

# Total Organic Carbon Removal

Water Treatment in Industrial and Power Markets



Determine a solution for your total organic carbon or natural organic matter challenges with AmberLite™ SCAV Ion Exchange Resins.

## What is Your Greatest TOC Challenge?

I have to meet ever tightening TOC limits in my boiler feed water or in water specifications for industrial systems where water is part of the final product.

I have to provide clear, colorless (aesthetically pleasing), safe and healthy drinking water to industries or communities.

I have to ensure reliable reverse osmosis or ion exchange system operations in fluctuating or challenging conditions.

## The Solution

AmberLite™ SCAV Ion Exchange Resins can be utilized to remove natural organic matter (NOM) in multiple different design configurations depending on your needs. SCAV resins can be applied either as a polisher, as an integrated part of the ion exchange demineralization system or as a stand-alone pretreatment for reverse osmosis or ion exchange demineralization systems. So whether you are looking to reduce the fouling potential of the water, reduce formation of disinfection byproducts, provide colorless potable water, or reduce formation of organic acids in the steam condensate cycle, SCAV resins are designed to effectively remove organics from the water under different operational circumstances, bringing water quality and operational stability back under control!

AmberLite™ SCAV Ion Exchange Resins are utilized in a number of market segments and applications including industrial demineralization, boiler feed water for high pressure boilers, sacrificial protector for selective resins, wastewater reuse, cooling tower blowdown, and potable water production.

Resin selection, system requirements and operating conditions will differ as NOM is water-source specific with respect to the molecular weight and characteristics like hydrophobicity of the organic matter. Please consult with your DuPont™ technical service representative when considering NOM removal with ion exchange resins.

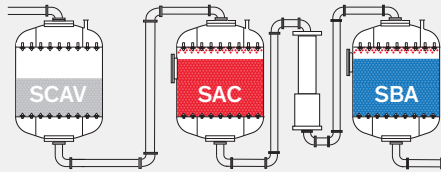
**Have another TOC challenge? Want to discuss further? Ask an expert.  
+ 1 989-636-1000 or toll free at +1 800-331-6451**

## Key Features

- Outstanding adsorption capacity of undesired NOM species during service
- Lower waste footprint with easy release of compounds upon very mild regeneration conditions
- One of its kind scavenger resins that no longer requires use of (alkaline) brine
- High physical stability and excellent fouling resistance
- Simple, reliable and robust operation

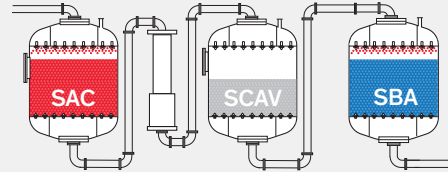
## Common Designs

### From Conventional Scavengers...



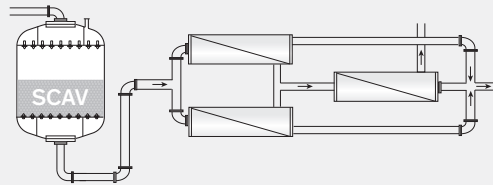
- AmberLite™ SCAV4
- Fouling protector
  - Quality improvement

### ...to Innovative Scavengers

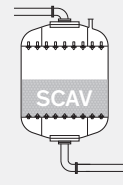


- Fouling protector and quality improvement
- Flexible and adjustable operation
- Switch operation from highest TOC capacity to highest TOC quality if circumstances ask for it.
- Use of standard bulk chemicals for regeneration – NO BRINE
- Can be fit in every existing system

### Other Scavenger Options:



- AmberLite™ SCAV4
- Reverse osmosis fouling protector for less cleanings



- AmberLite™ SCAV4
- Potable water decolorization

AmberLite™ Resin	Features	Best Used For
SCAV1	Easy regeneration, flexible operation, outstanding adsorption capacity	Removal of hydrophobic and hydrophilic NOM species for high free mineral acidity (FMA) waters at acidic pH. Waters with medium to high TDS when the ratio of TOC to sulfate (ppm C / meq SO <sub>4</sub> ) is less than 3.
SCAV2	Easy regeneration, flexible operation, outstanding adsorption capacity	Removal of high load hydrophilic and hydrophobic NOM for low free mineral acidity waters at acidic pH. Waters with low to medium TDS when the ratio of TOC to sulfate (ppm C / meq SO <sub>4</sub> ) is greater than 3.
SCAV3 Cl	Styrenic, ultra-macroporosity, extra high water content for effective loading and desorption of organics	Removal of large, complex, hydrophobic NOM and color species (such as humic and fulvic components) and general polishing of organics remaining after bulk removal at neutral to alkaline pH. Recommended choice for drinking water production
SCAV4 Cl	Acrylic, macroporous, easy regeneration	Removal of high load hydrophilic and hydrophobic NOM at neutral to alkaline pH, with excellent resin lifetime and long, stable performance even under challenging operational conditions. The go-to organic scavenger for the bulk removal of NOM, and especially useful as RO pretreatment.

**Have a question?** Contact us at: [dupont.com/water/contact-us](http://dupont.com/water/contact-us)



[dupont.com/water](http://dupont.com/water)

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