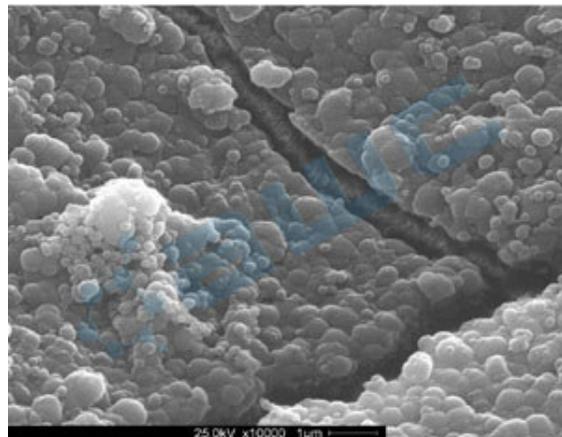


Controlling High Silica in RO Systems

One of the most common questions asked by RO plant operators is: "What antiscalant do we need to control high levels of silica in RO systems?"

There are many misguided beliefs on how to control silica. Some people recommend operating at a pH of 8, (the point of lowest solubility for amorphous silica) because they've heard that silica is more soluble at higher pH. Many others have stories about how they operated successfully with water that had 300 ppm silica by using one silica antiscalant or another. But few realize that silica scaling is dependent on many factors that include pH, temperature, divalent cation content (Ca, Mg, Fe) and divalent anion content (CO₃, SO₄). So just because an antiscalant was successful at one location that had 300 ppm silica does not mean that it will be successful at other locations, unless they have similar overall water chemistry.

Silica fouls reverse osmosis membranes by polymerizing into longer chains that form an amorphous gel-like substance. The constituents in the water will actually determine whether those silica polymers remain in suspension and exit in the concentrate stream, or grow into large networks that deposit on the membrane. Polyvalent cations (multiple positive charges) like calcium or magnesium can increase the rate and extent of silica polymerization. Even monovalent cations (single positive charge) like sodium, when present in high concentrations, will increase silica polymerization. Sulfates on the other hand, appear to make silica more soluble - possibly because they are anionic (negative charge) and they tie up the cations that act as catalysts. [READ MORE....](#)



Silica scale on RO membrane surface

IDA World Congress, Tianjin China



October 20 through 25, American Water Chemicals will have a booth and be presenting a paper for the 2013 International Desalination Associations' World Congress. AWC is privileged to be able to showcase our products and services for all IDA members and re-emphasize our distributors throughout China and the Asian markets. AWC President Mo Malki will be presenting a paper titled: "Controlling Aluminum Silicate Formation in Membrane Separation Processes". The presentation will take place on Wednesday, October 23, 2013 and is open to all IDA Delegates.

Don't forget to stop by our booth at the Tianjin Meijiang Convention and Exhibition Center A-71. We'll be looking forward to seeing you!

Reaching A Global Market - Distributors and Representatives



A recent trip by AWC VP of Sales and Marketing, Tarek El-Shafie (center) and Latin America Sales Manager Lilliana Munoz (second from right) to North Africa was a highlight for the AWC sales team. During the tour, AWC was able to provide hands on training and technical expertise to our new distributors in North Africa.

Because of the increased demand for quality chemicals and training throughout the world, AWC has focused on providing solutions that fit the need of the customer. This includes the addition of local distributors that can provide the same high quality chemicals available

from AWC without customs delays or overseas regulations that can slow the delivery process. Using International distributors, including North Africa, AWC product can be purchased directly through an authorized, in-country representative and can be shipped within days instead of weeks.

Interested in being an AWC distributor in your country? Contact us...
Call: +1-813-246-5448 or email: info@membranechemicals.com

AWC President Wins SEDA Educator of the Year 2013



Mo Malki, President of American Water Chemicals (AWC), was awarded 2013 Educator of the Year by the Southeast Desalting Association (SEDA) at its Annual Symposium. The event featured educational and technical sessions, a membrane water treatment plant tour and the annual awards luncheon.

"It's an honor to be recognized by SEDA," said Mr. Malki. "AWC is passionate about our business and we will continue to support the advancement of membrane technologies through organizations like

SEDA."

Mr. Malki, has been an active member of SEDA since 2006 and has been involved in the membrane industry since 1998. He has been an advocate for educating industry professionals on the water chemistry principles necessary to identify and resolve operational and performance issues in membrane purification systems.

The SEDA conference is held to share current industry information, provide continuing education credits (CEU's) for certified water treatment plant operators and professional engineers and to recognize efforts of its members. Mr. Malki was also elected to the SEDA Board of Directors for the 2013-2015 session.

SCMA Case Study Presentations - Membrane Autopsy & Cleaning



American Water Chemicals recently had an exhibit booth and gave presentations at the SCMA (South Central Membrane Association) 2013 Annual Conference "Water - In The Best of Times, In the Worst Of Times" 7/31-8/2/13, San Antonio, TX.

AWC VP of Sales Tarek El-Shafie and Vana Abass, AWC R&D Manager both had presentations at the event. Tarek's case study: "Cleaning the Uncleanable Membrane - Why Procedure Matters" was met with both surprise and enthusiasm. Details presented the intricacies that can sometimes be overlooked in every aspect of membrane operation. Vana's case study "Membrane Autopsy" exposed four different scenarios that showed membrane fouling and scaling that could only be discovered through an investigative membrane autopsy. Both presentations added to the technical sessions of the SCMA conference and helped attendees get a better understanding of only some of the problems that can arise within membranes and membrane filtration systems.

AMTA / SCMA Joint Technology Transfer Workshop - Sept. 2013 AWC's Presentation on Membrane Pretreatment Chemicals in TX

The recent AMTA / SCMA Joint Technology Transfer Workshop on South Padre Island, TX was a great learning opportunity for industry professionals regarding breakthroughs and updates for membrane technologies. AWC made a presentation on "Chemicals for Pretreatment in TX" that provided an overview of the most commonly used pretreatment chemicals with an in-depth explanation of coagulation and flocculation for the removal of suspended solids, organics and arsenic. The presentation also discussed pH adjustment by acid and caustic and its effect on arsenic removal by oxidation/membrane rejection.

Attendees were also educated on the basic concepts of crystalline and amorphous scale formation, the effect of pH on sulfide removal by membranes and degasifiers and scale control by acid and antiscalant. Presentations throughout the workshop addressed case studies and industrial application uses of membranes and a tour of the largest RO plant in south Texas - which just happens to be an AWC customer...

Conferences & Events

Join us around the world for industry events and conferences



IDA World Congress
Exhibition for
Desalination and Water
Reuse, Tianjin, China
October 20-25, 2013
[Website Link](#)



**International Water
Conference®** Hilton
Walt Disney Resort,
Orlando, FL
November 17-21, 2013
[Website Link](#)



SEDA
Chemical Pretreatment
for RO - Coral Springs
Nov. 14 & Palm Bay,
FL Dec. 12, 2013
[Website Link](#)



AMTA 2014
Membrane Technology
Conference, Las
Vegas, NV
March 10-13, 2014
[Website Link](#)

Have Any Technical Questions?

 **ASK THE MEMBRANE EXPERT**

[CLICK HERE](#)

Contact Us



American Water Chemicals, Inc.
1802 Corporate Center Lane
Plant City, FL 33563 USA
Office: +1-813-246-5448

www.membranechemicals.com
info@membranechemicals.com



[Forward this email](#)



Try it FREE today.

This email was sent to momalki@amh2ochem.com by marketing@membranechemicals.com | [Update Profile/Email Address](#) | Instant removal with [SafeUnsubscribe™](#) | [Privacy Policy](#).
American Water Chemicals, Inc. | 1802 Corporate Center Lane | Plant City | FL | 33563