



A S Harrison & Co

Established
1923

Water Treatment Chemicals

Reduce operating costs, plant downtime and the frequency of cleaning with our innovative water treatment solutions.

We have partnered with a leading international manufacturer - American Water Chemicals (AWC), to provide you with leading edge water treatment focussing on reverse osmosis membrane chemicals for desalination and industrial water treatment.

Our solutions can help you in reducing operating costs and frequency of cleaning. AWC chemicals are approved for all membrane types.



All AWC products are certified to NSF/ANSI 60

Cleaning Chemicals

Our specialty cleaners penetrate and remove the most stubborn foulants from membrane surfaces, reducing cleaning frequency and chemical costs.



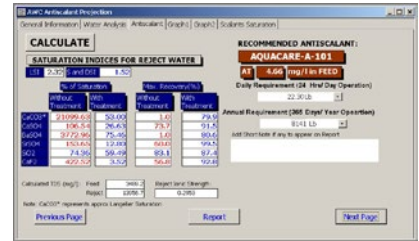
Antiscalants

We can provide powerful antiscalants that allow reverse osmosis (RO) system operation at higher recoveries while using cost effective dosages.



PROTON®

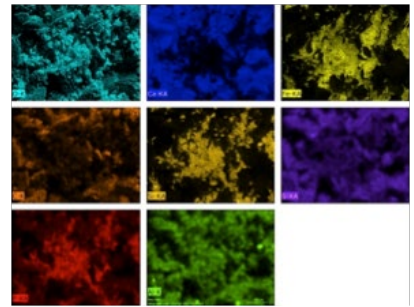
Proton is the world's most powerful membrane antiscalant software which accurately calculates scalant rejection with varying pH, whilst also accounting for scalant kinetics, varying feed temperatures, ionic strength & recovery rate.



Membrane Autopsies

present a list of elements and percentages but cannot positively identify scalants, foulants or the root cause of the problem.

AWC employs state of the art microscopy and spectroscopy to identify element, chemical bonds and crystal structures and determine the extract nature of specific scalants and foulants on the membrane surface.



Collect Water Samples and system Information

Run Projection

Synthesize Concentrate Water

Replicate field operation in lab

Determine fouling mechanisms

Compare Inhibitors

Optimize dosage and pH

Apply correct chemical at appropriate rate

The Only Reliable Method for Validating RO/NF Antiscalant Dosages

Product	Features
REVERSE OSMOSIS	
ANTI-SCALANTS	
AWC A-102 Plus	<p>Broad spectrum scale inhibitor designed for use with municipal RO & NF membrane systems.</p> <ul style="list-style-type: none"> Effectively inhibits formation of calcium sulphate, calcium fluoride, barium sulphate, strontium sulphate & silica. Stabilises metal ions to prevent metal oxide precipitation and disperse metal oxides/hydroxides silt and clay particles. Environmentally compatible, especially where discharge of waste into environment is a concern. Compatible with all major membrane manufacturers.
AWC A-102 Ultra	
AWC A-119	<p>Premium broad spectrum antiscalant designed to inhibit inorganic scale formation in membrane separation processes.</p> <ul style="list-style-type: none"> Designed for use with RO/NF feed water that contains high levels of iron in the ferric state (oxidised iron), and aluminum. Inhibits calcium carbonate scale up to a Calcium Carbonate Nucleation Index (CCNI) of 2.2. Maintains good scale inhibition even in the presence of high levels of iron. Controls calcium sulfate, barium sulfate, strontium sulfate and silicate scales in waters with moderate scaling potential. Effectively disperses metal oxides and other inorganic particulates such as silt and clays.
AWC A-108- Fe	<p>Broad spectrum antiscalant designed to inhibit inorganic scale formation.</p> <ul style="list-style-type: none"> Maintains good scale inhibition even in the presence of moderate levels of iron. Controls calcium sulphate, barium sulphate and strontium sulphate scales in waters with extremely high scaling potential. Also exhibits control of silicate and phosphate scales at moderate to high levels. Effectively stabilises metal ions and disperses metal oxides and other inorganic particulates such as silt and clay.
AWC A-110	<p>RO antiscalant designed to inhibit silica and phosphate scale formation in membrane separation processes.</p> <ul style="list-style-type: none"> Inhibits calcium carbonate scale up to a Calcium Carbonate Nucleation Index (CCNI) of 2.3. Inhibits calcium phosphate scale formation even in the presence of coagulant carryover carryover, disperses precipitated scales. Effectively stabilises metal ions and disperses insoluble metal oxides in the reject. Controls calcium fluoride, calcium sulfate, barium sulfate and strontium sulphate scales in waters with a high fouling potential.
CLEANING	
AWC C-205	<ul style="list-style-type: none"> Low pH powder RO membrane cleaning chemical for dissolution of carbonate, phosphate and hydroxide scales. Effectively dissolves and chelates iron, aluminium and other metal oxides. Chelates light deposits of pH independent precipitants such as calcium fluoride, calcium sulphate, barium sulphate & strontium sulphate.
AWC C-219	<p>Membrane cleaning compound for dissolution of heavy silica deposits.</p> <ul style="list-style-type: none"> Does not contain ammonium bifluoride or hydrofluoric acid. Effectively dissolves and chelates iron, aluminum and other metal oxides and hydroxides. Formulated to prevent calcium fluoride scaling during use. Stabilised fluoride formulation does not cause chemical burns.
AWC C-225	<p>High strength powder formulation specifically designed to remove metal oxides from polyamide thin film composite membrane surfaces and water softener resins.</p> <ul style="list-style-type: none"> Produces an effervescent bubbling effect that improves cleaning efficacy. Effective in dispersing some biofilms that may have formed a matrix with the metal oxides. Assists in removal of carbonate and sulphate scales.
AWC C-227	<p>High strength powder formulation specifically designed for removal of heavy organic fouling from membrane surfaces.</p> <ul style="list-style-type: none"> Penetrates and disperses biological slime. Disperses inorganic particulates such as silts, clays and other colloidal particles. Removes polymers, emulsified oils, dyes and organic colours from the membrane surface. Buffered to maintain pH range even when product is accidentally overdosed.
AWC C-232	<p>Designed for removal of tough organic scales such as calcium phosphonate, calcium polyacrylate and calcium citrate.</p> <ul style="list-style-type: none"> Removes inorganic carbonate, phosphate & hydroxide scales. Effective in cases of severe scaling.
AWC C-236	<p>Designed for use as a high pH silica cleaner on polyamide thin film composite membrane surfaces.</p> <ul style="list-style-type: none"> Dissolves polymerised silica scaling as well as colloidal silica fouling. Removes greases, oils, inorganics & biofilms. Chelates metal hydroxide deposits and some sulphate scales. Does not contain any hydrofluoric acid or ammonium bifluoride.
AWC C-238	<p>High strength liquid specifically designed for removal of sulphate scale.</p> <ul style="list-style-type: none"> Dissolves stubborn strontium sulphate, calcium sulphate & barium sulphate scales.

Product	Features
MICRO & ULTRAFILTRATION	
ANTI-SCALANTS	
AWC A-114 UF	<ul style="list-style-type: none"> • A phosphorous free antiscalant that inhibits formation of carbonate, sulphate & phosphate scales in MF & UF systems. • Compatible with metal coagulants & non-ionic flocculants. • Phosphorous free & environmentally compatible.
CLEANING	
AWC UF-405	<ul style="list-style-type: none"> • Low pH powder MF/UF cleaning compound for dissolution of carbonate & phosphate scales. • Effectively dissolves & chelates iron, aluminium & other metal oxides.
AWC UF-426	<ul style="list-style-type: none"> • High pH powder MF/UF cleaning compound that penetrates & lifts biofilms, organic foulants, oils, greases & other hydrocarbons. • Disperse inorganic particles such as silts, clays & other colloidal particles.
AWC UF-428	<ul style="list-style-type: none"> • Chlorinated high pH powder for removal of heavy biological and organic fouling, compatible with PES membranes (Note: alternative options are available for different membrane material). • Disperse inorganic particles such as silts, clays & other colloidal particles. • Dissolves metal hydroxides from coagulants.

Note: This is a snapshot of the chemicals that A S Harrison have available, please contact an A S Harrison & Co representative for a discussion on the appropriate chemical for your application.

Product	Features	Applications
CORTEC CORROSION INHIBITORS		
Cooling Loop Gator	Vapour phase Corrosion Inhibitor (VpCI®) powder packaged in polyvinyl alcohol (PVA) watersoluble bags. Developed for seasonal, short-term, or longterm layup, Cooling Loop Gator® protects enclosed spaces for up to 12 months. Once the bag and powder dissolve, the Vapour phase Corrosion Inhibitors adsorb on all metal surfaces, reaching recessed areas and interior cavities. The VpCI® inhibitors form a strong molecular layer on the metal that protects in both the liquid and vapour phase.	Developed for seasonal, short-term, or longterm layup, Cooling Loop Gator® protects enclosed spaces for up to 12 months.
Boiler Dragon	Ready-to-use waterborne multi-metal Vapour phase Corrosion Inhibiting (VpCI®) fogging fluid designed for use in the dry layup of large boilers and steam components for short- and long-term preservation. The unique vapour-phase properties of the VpCI® molecules provide continuous protection throughout the boiler spaces when properly applied. Direct application to every metal surface is not required.	Alternative to traditional boiler dry layup options such as desiccants, quicklime, or nitrogen blankets. Boiler systems preserved by the Boiler Dragon™ can be returned to service quickly by simply filling the boiler with makeup water.
M-95	Very low foaming, water soluble corrosion inhibitor concentrate. It provides corrosion protection for steel, copper, brass, magnesium, aluminum, bronze, galvanised steel, and other ferrous and non-ferrous metals and their alloys. M-95 prevents corrosion in both phases: contact and vapour.	Industrial cooling towers Water based lubricants Aerosol formulations Treating baths for copper and copper alloys Radiator fluid additive Anti-freeze ethylene glycol/water based formulations.
S-69	An all organic liquid additive formulation designed for low level concentrations which contain a unique combination of contact and vapour phase inhibitors. Effective for open and closed loop cooling systems.	Designed to replace chromates, nitrites, phosphonates, and other types of restricted corrosion inhibitors.
M-615	An additive to low and medium pressure boilers. It will provide improved heat transfer efficiency and longer equipment life by keeping the system free from corrosion attack and harmful insulating deposits. This product contains corrosion inhibitor and anti-scalants, and can be combined with other boiler additives <ul style="list-style-type: none"> • Protects against pitting. • Reduces maintenance time and costs. • Very economical low dosage. • Liquid form delivery for easy, direct application to system without premixing. • Extends boiler system life. • Easy to control treatment program. • Provides protection to ferrous metals, aluminum alloys and galvanised steel 	Boiler treatment program.

Product	Features	Applications
CORTEC CORROSION INHIBITORS		
M-640/L	Liquid corrosion inhibiting additive for water and glycol-based heat exchange fluids. It protects ferrous and non-ferrous metals from corrosive contaminants. This product is an excellent replacement for silicates and phosphate/nitritebased/ amine compounds. (Powder option also available).	Heater exchanger fluids.
M-645	Corrosion inhibitor additive for corrosion induced by seawater or brine. M-645 is a highly surface active concentrate, which will displace water containing chlorides from the metal surface, is then adsorbed forming an oily protective film on the metal. This film is the most uniform when it is applied in conjunction with an oxygen scavenger.	Ballast tanks containing seawater Hydrotesting of pipelines / vessels
S-8	Can be used in very low concentration and still provide complete corrosion protection in water, its vapors and their interface. This product is especially useful for the corrosion protection of metallic cans with different food items during their washing or sterilization of the packed food. S-8 is a non-toxic "green" filming corrosion inhibitor. Sodium salt of fatty amino acids and amino alcohol are the active ingredients of S-8. S-8 provides excellent corrosion inhibition. Benchtop laboratory tests show outstanding film persistency and stability in a wide temperature range. S-8 is compatible with the majority of water chemistries. S-8 outperforms other "green" inhibitors due to its stability and ability to form a thin protective layer that will not cause sticky deposits.	Designed for canned food protection
S-14 Bio Powder	Biobased anti-scaling inhibitor for cooling towers and other open-loop recirculating cooling systems. S-14 Bio is a water soluble powder. It is non-toxic, non-hazardous, and readily biodegradable. In contrast to other commonly used antiscalant products such as phosphonates and poly acrylates, S-14 Bio Powder does not attack steel or aluminum. In addition, S-14 Bio Powder protects galvanised steel.	Cooling towers and other open-loop recirculating cooling systems.
S-15	Critical to minimise corrosion and deposits in the boiler systems in order to maximise energy efficiency and life span. The gases typically dissolved in water, such as oxygen and carbon dioxide, lead to corrosion. Oxygen causes pitting and rusting while carbon dioxide causes acid corrosion. S-15 is effective in controlling corrosion caused by oxygen and carbon dioxide in high and medium pressure boilers and condensate lines.	Boiler treatment program for replacement of Hydrazine Programs.
VpCl®-105	The device emits Vapour phase Corrosion Inhibitors, which form a protective coating on all metal surfaces. It is a patented plastic emitter with a breathable Tyvek®* membrane through which the corrosion inhibitor is released. It provides long-term protection against corrosion even in the presence of adverse conditions including salt, moisture, airborne contaminants, H ₂ S, SO ₂ , NH ₃ , and others.	Unique devices designed to provide corrosion protection for metal components and parts enclosed in non-ventilated control boxes, cabinets, or tool boxes.

All products are designed for multi metal protection covering: Carbon Steel, Stainless, Galvanised, Aluminium, Brass, Copper, Bronze.

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Product	Features	Packaging available
COMMODITY CHEMICALS		
Sodium Hydroxide	pH adjustment	200l drum, 1000L IBC, Bulk delivery
Sulphuric Acid	pH adjustment	
Soda Ash	pH adjustment	
Magnesium Hydroxide	pH adjustment	
Hydrochloric Acid	pH adjustment	
Chlorine	Disinfection and Microbial control	
Sodium Hypochlorite	Disinfection and Microbial control	
Ferric Chloride	Iron based inorganic coagulant	
Poly Aluminium Chloride	Aluminium based inorganic coagulant	

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people...product...performance

ABOUT US

Established in 1923, A S Harrison & Co is a knowledge-based agency and distribution business. Utilising an extensive warehousing and logistics network, we import and supply a unique portfolio of specialty chemical additives within Australia, New Zealand, the South Pacific and South East Asia. With proven expertise in Engineering and Marketing services, we provide a full range of support for our customers, ensuring all quality standards are met.

A S Harrison & Co manages Environment, Safety, Health and Quality (ESHQ) through an integrated management system certified to ISO 9001:2015 and ISO 14001:2015 by LRQA. This also includes an ISO 19600:2015 based compliance management system to maintain regulatory compliance.

CORROSION SOLUTIONS

A S Harrison & Co are the Australian representatives for Cortec.

Cortec provide innovative corrosion solutions by utilising their unique vapour phase & migrating corrosion inhibitor technology. *Please ask A S Harrison & Co for advice on asset protection.*

ENGINEERING SOLUTIONS

A S Harrison & Co have a proven commitment to value addition through provision of engineering equipment to enable optimal and trouble-free dosing of additives.

A S Harrison & Co can provide the following services:

- Additive dosing equipment
- Decanting solutions
- Storage solutions



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