

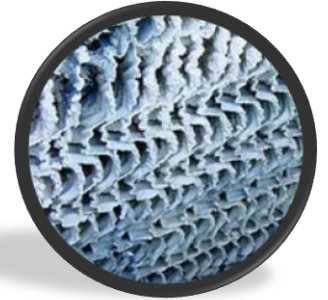
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شرکت
انرژی سپاهان و محیط

Water & Wastewater Treatment
Chemicals

Cooling Tower Treatment Chemicals



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1. Cooling Tower Treatment Chemicals

1) Scale & Corrosion Inhibitors

| Code | Product Name |
|------|--|
| 2048 | Combined Scale Control / Anti-Foulant-cooling Systems |
| 2202 | Scale & Corrosion Inhibitor (Hard Water) – Open Cooling Systems , Neutral |
| 2303 | Corrosion Inhibitor / Scale Dispersant – Evaporative Cooling / Air Conditioning Plant |
| 2304 | Combined Inorganic / Organic Scale & Corrosion Inhibitor – Open Cooling Systems |
| 2305 | Multi – Purpose Treatment – Open Evaporative Cooling Systems |
| 2312 | Scale & Corrosion Inhibitor (Hard water) – Open Cooling Systems , air Conditioning Plant |
| 2313 | Scale / Corrosion Inhibitor & Antifoulant – Open Evaporative Recirculating Water Systems |
| 2314 | Scale & Corrosion Inhibitor – Open Evaporative Cooling Systems |
| 2318 | Scale Dispersant / Sludge Conditioner For Cooling Systems |
| 2507 | Phosphate Scale / corrosion Inhibitor – cooling Systems |
| 2508 | Multifunctional Molybdate Scale & Corrosion Inhibitor |
| 2876 | Scale & Corrosion Inhibitor , Zinc Phosphate |
| 8010 | Bio – Dispersant (Oil Fouling) – Cooling Water Systems |

1-2) Biocides

| Code | Product Name |
|------|---|
| 2301 | Cooling Water Systems Biocide |
| 2302 | Biodegradable Biocide – Cooling Water Systems |
| 2306 | Bio-Dispersant , Biocide |
| 2886 | Isothiazoline , Biocide |
| 8105 | Hydrogen Peroxide Synergized Silver Blended Biocide |

1-3) Cleaners

| Code | Product Name |
|------|---|
| 2520 | CIP Tower Pack Cleaner |
| 2521 | Stabilized Chlorine Dioxide CIP Tower Pack Cleaner- |
| 2522 | CIP Tower Pack Cleaner – Low Acid |
| 2500 | CIP Pack Cleaner – Antifoam |
| 2600 | CIP Pack Cleaner - Neutralizer |



**Combined scale control/anti-foulant -
cooling systems
(Anichem- 2048)**

Product Description

Anichem2048 is an excellent combined antiscalant and anti-foulant for cooling water systems. Anichem2048 is designed to inhibit scale formation and fouling in cooling water systems. Anichem2048 is particularly effective against carbonate and sulphate deposition and in dispersing clay, mud and silt. Anichem2048 represents no effluent problems. This product contains carboxylic acid and acrylates.

Dose Anichem2048 continuously to promote 20 – 60 ppm within the circulating water. For further technical assistance please contact EVM.





**Scale & corrosion inhibitor (hard water) -
open cooling systems, neutral
(Anichem– 2202)**

Product Description

Anichem2202 is the neutral version of Anichem2312. Anichem2202 is a superior, non-volatile liquid and scale inhibitor developed for open circuit evaporative cooling systems and air conditioning plant operating under hard water conditions. Anichem2202 has been designed for use in conjunction with Anichembiocide treatments, used for control of bacteria of the type considered to be a possible source of Legionella bacteria and Legionnaires' disease. Anichem2202 is a neutral blend of an organic corrosion inhibitor, a threshold deposit controller and sludge conditioner offering protection to multi-metal systems without the requirement of additional specific corrosion inhibitors. Anichem2202 contains no controversial constituents such as heavy metals or phosphates, whose use is becoming increasingly restricted. It offers protection over an extended range of pH, temperature and raw water hardness, making an ideal treatment for both building services and industrial application. NOTE - Anichem2202 should not be used in conjunction with either chlorine or bromine.



Pre-treatment dosage for Anichem2202 - To ensure rapid film formation and corrosion control the system should be pre-treated with Anichem2312 for two or three weeks at twice the normal continuous dosage.

Continuous dosage for Anichem2202 - Anichem2202 should be dosed to maintain a minimum of 100ppm in recirculation. For maximum control and economy it should be dosed continuously, excellent results being achieved employing an automatic proportional dosing unit POA. For further technical assistance please contact EVM.



**Corrosion inhibitor/scale dispersant -
evaporative cooling/air conditioning plant
(Anichem- 2303)**

Product Description

Anichem2303 is an advanced, stable, non-volatile liquid corrosion inhibitor and scale dispersant developed for use in open circuit evaporative cooling systems and air conditioning plant systems.. Anichem2303 is an alkaline blend of anodic and cathodic inhibitors based on phosphate, a threshold deposit control agent, a sludge conditioner combined with a bromine pre-cursor and offers protection to multimetal systems. When used with an Anichemactivator product the correct level of "bromine" is released to control microbiological growth in the system. Anichem2303 contains no heavy metals and offers protection over a wide range of temperature conditions in low hardness and low alkalinity conditions.

Pre-treatment dosage of Anichem2303 - To ensure rapid film formation and corrosion control the system should be passivated for a period of at least one week with 800 to 1000ppm in Anichem2303 the system water. Continuous dosage of Anichem2303 - Anichem2303 should be dosed to maintain a reserve of 200-300ppm in the system water. For maximum control and economy it should be dosed in proportion to make-up requirements. For further technical assistance please contact EVM.





**Combined inorganic/organic scale &
corrosion inhibitor - open cooling Systems
(Anichem– 2304)**

Product Description

Anichem2304 is an advanced alkaline blend of inorganic and organic scale and corrosion inhibitors combined with a bromine pre-cursor, developed specifically for use in open circuit evaporative cooling systems. Anichem2304 provides scale and corrosion control over a wide range of water qualities and operational conditions. When used in conjunction with an Anichemactivator product the correct level of “bromine” is released to control microbiological growth in the system.

Pre Treatment of Anichem2304 - Like most film forming corrosion inhibitors maximum protection is afforded if a pretreatment period is adopted. Anichem2304 is dosed at 3 times the normal dosage for a period of 5 days at the start of the treatment programme, enabling a strong film to be built up quickly. Similarly should the normal dosage be interrupted for any length of time, an elevated dosage for a short period of time will re-establish maximum protection in the shortest possible time. Normal Dosage of Anichem2304 - Anichem2304 should be dosed to maintain a minimum reserve of 200ml/m³ in the system water at all times. For further technical assistance please contact EVM.





**Multi-purpose treatment - open
evaporative cooling systems
(Anichem– 2305)**

Product Description

Anichem2305 is an advanced alkaline blend of corrosion inhibitor, a threshold deposit control agent, sludge conditioner and bromine precursor developed for use in open evaporative cooling systems. Anichem2305 provides protection to multi-metal systems without the requirement of additional specific corrosion inhibitors. When used in conjunction with an Anichemactivator the correct level of 'bromine' is released to control microbiological growth in the system. Anichem2305 contains no controversial constituents such as heavy metals or phosphates, whose use is becoming increasingly restricted. It offers protection over an extended range of pH, temperature and raw water hardness, making an ideal treatment for both building services and industrial application.

Pre-treatment dosage of Anichem2305 - To ensure rapid film formation and corrosion control the system should be pre-treated with Anichem2305 for two or three weeks at twice the normal continuous dosage. Continuous dosage of Anichem2305 - The exact dosage required will depend on a number of factors but will normally be in the range of 100-200ml/m³ in recirculation. For further technical assistance please contact EVM





**Scale & corrosion inhibitor (hard water) -
open cooling systems, air conditioning
plant
(Anichem– 2312)**

Product Description

Anichem2312 is a superior, non-volatile liquid and scale inhibitor developed for open circuit evaporative cooling systems and air conditioning plant operating under hard water conditions. Anichem2312 has been designed for use in conjunction with Anichembiocide treatments, used for control of bacteria of the type considered to be a possible source of Legionella bacteria and Legionnaires' disease. Anichem2312 is an alkaline blend of an organic corrosion inhibitor, a threshold deposit controller and sludge conditioner offering protection to multi-metal systems without the requirement of additional specific corrosion inhibitors. Anichem2312 contains no controversial constituents such as heavy metals or phosphates, whose use is becoming increasingly restricted. It offers protection over an extended range of pH, temperature and raw water hardness, making an ideal treatment for both building services and industrial application. NOTE - Anichem2312 should not be used in conjunction with either chlorine or bromine.

Pre-treatment dosage for Anichem2312 - To ensure rapid film formation and corrosion control the system should be pre-treated with Anichem2312 for two or three weeks at twice the normal continuous dosage. Continuous dosage for Anichem2312 - Anichem2312 should be dosed to maintain a minimum of 100ppm in recirculation. For maximum control and economy it should be dosed continuously, excellent results being achieved employing an automatic proportional dosing unit POA. For further technical assistance please contact EVM.





**Scale/corrosion inhibitor & antifoulant -
open evaporative recirculating water
systems
(Anichem– 2313)**

Product Description

Anichem2313 is a superior, alkaline blend of inorganic and organic scale and corrosion inhibitors developed for open circuit evaporative cooling systems. Anichem2313 is stable over a wide range of temperature and pH variations and provides scale and corrosion control over a wide range of water qualities and operational conditions. Like most film forming corrosion inhibitors maximum protection is afforded if a pretreatment period is adopted. Anichem2313 is dosed at 3 times the normal dosage for a period of 5 days at the start of the treatment programme, enabling a strong film to be built up quickly. Similarly should the normal dosage be interrupted for any length of time, an elevated dosage for a short period of time will re-establish maximum protection in the shortest possible time.

Anichem2313 should be dosed to maintain a minimum reserve of 100ml/m³ in the system water at all times. For maximum control continuous dosing is desirable, using a water meter controlled dosing system. For further technical assistance please contact EVM.





**Scale & corrosion inhibitor - open
evaporative cooling systems
(Anichem– 2314)**

Product Description

Anichem2314 is a superior, chlorine stable, non-volatile liquid corrosion inhibitor and scale dispersant developed for use in open evaporative cooling systems. Anichem2314 is an alkaline blend of corrosion inhibitor, a threshold deposit controller and sludge conditioner offering protection to multi-metal systems without the requirement of additional specific corrosion inhibitors. Anichem2314 contains no controversial constituents such as heavy metals or phosphates, whose use is becoming increasingly restricted. It offers protection over an extended range of pH, temperature and raw water hardness, making an ideal treatment for both building services and industrial application.

Pre-Treatment Dosage - To ensure rapid film formation and corrosion control the system should be pre-treated with Anichem2314 for two or three weeks at twice the normal continuous dosage. Continuous dosage of Anichem2314 - Anichem2314 should be dosed to maintain a reserve of 50ml/m³ in recirculation. For maximum control and economy it should be dosed continuously, excellent results being achieved employing an automatic proportional dosing unit. For further technical assistance please contact EVM.





**Scale dispersant/sludge conditioner, steam
boilers & cooling systems
(Anichem– 2318)**

Product Description

Anichem2318 is a superior water treatment product comprising a specially blended mixture of polymeric sludge conditioners developed for use in steam boilers and cooling water systems. Anichem2318 works using a combination of chelation, crystal modification and the threshold effect, and is effective against a wide range of scalants including calcium and magnesium hardness, iron oxide and silica. Anichem2318 converts the scaling material into a light mobile floc, which can be blowdown easily. Anichem2318 will gradually re-disperse old deposits and may be used as part of a maintenance 'clean up' programme.

Treatment and dosage for Anichem2318 - Anichem2318 is normally dosed to maintain 50-100 ppm in the system, although, if it is being used as part of a 'clean up' programme, higher levels may be maintained. Anichem2318 is compatible with other commonly used treatments and can be dosed from the same mixing tank. For further technical assistance please contact EVM.





**Phosphonate scale/corrosion inhibitor -
cooling systems
(Anichem– 2507)**

Product Description

Anichem2507 is a highly effective phosphonate based scale and corrosion inhibitor developed for the treatment of cooling water systems. Anichem2507 is suitable for systems with a pH higher than 8.5, high levels of calcium hardness (80 - 900ppm) and M.Alkalinity, 300 - 550ppm. If the level of zinc in the recirculating water exceeds 2ppm then add a further 7ppm of Anichem2507 per 1ppm zinc.

Under normal conditions, use 45 - 65ppm of Anichem2507 in the recirculating water. This equates to 38 - 50ml per cubic metre divided by CF. For further technical assistance please contact EVM.





**Scale & corrosion inhibitor, zinc
phosphonate
(Anichem– 2876)**

Product Description

Anichem2876 is a highly effective combined scale and corrosion inhibitor developed as a multifunctional zinc/phosphate based blend of scale and corrosion inhibitors for open re-circulating water systems. Anichem2876 is designed for systems with corrosive water (low to medium hardness and/or alkalinity). Anichem2876 will provide protection over a wide range of operating parameters. Anichem2876 is applicable for 50 - 800 calcium and 100 - 350 M-alkalinity.

The typical dosage for Anichem2876 is 135 ppm. The dosage is dependent on the alkalinity, calcium hardness, Ph and temperature of the re-circulating water. For further technical assistance please contact EVM





Foaming CIP Tower Pack Cleaner (Anichem– 2520)

Product Description

Anichem2520 is a high performance foaming cleaner developed for cooling tower pack cleaning and CIP applications. Anichem2520 is based on phosphoric acid that incorporates a foaming agent tolerant to acid and chlorine dioxide. Anichem2520 forms a stable wet foam that is able to slowly flow through the tower packing. When the stabilised chlorine dioxide (Anichem2521) is added to the foam concentrate, chlorine dioxide is present in the foam creating a highly effective cleaning agent.

EVM's range of high performance foaming tower cleaning products have been developed to offer a practical alternative to the pack removal step in the tower cleaning procedure outlined in paragraph 138 of the UK Health and Safety Executives Approved Code of Practice L8, where it is not practical to remove the tower packing. Although removal of the tower pack for cleaning is regarded as best practice by the HSE, alternative methods of cleaning the tower may be considered where there are practical difficulties in doing so. The efficacy of these alternative procedures must be verified





**Stabilised Chlorine Dioxide CIP Pack
Cleaner
(Anichem– 2521)**

Product Description

Anichem2521 is a specially developed stabilised chlorine dioxide solution developed for use in conjunction with Anichem2520 and Anichem2522 for cooling tower pack cleaning and CIP applications. It is packed in 250 ml containers, and is sufficient to generate 50 ppm of chlorine dioxide when mixed with either 10 litres of Anichem2520 or Anichem2522, and subsequently used at 10:1 dilution rate in a foaming power washer.

EVM's range of high performance foaming tower cleaning products have been developed to offer a practical alternative to the pack removal step in the tower cleaning procedure outlined in paragraph 138 of the UK Health and Safety Executives Approved Code of Practice L8, where it is not practical to remove the tower packing. Although removal of the tower pack for cleaning is regarded as best practice by the HSE, alternative methods of cleaning the tower may be considered where there are practical difficulties in doing so. The efficacy of these alternative procedures must be verified.





**Foaming CIP Tower Pack Cleaner - Low
Acid
(Anichem– 2522)**

Product Description

Anichem2522 is a low acid, high performance foaming cleaner developed for cooling tower pack cleaning and CIP applications. It is an alternative product to Anichem2520 and can be used where corrosion may be an issue. Anichem2522 forms a stable wet foam that is able to slowly flow through the tower packing. When the stabilised chlorine dioxide (Anichem2521) is added to the foam concentrate, chlorine dioxide is present in the foam creating a highly effective cleaning agent.

EVM's range of high performance foaming tower cleaning products have been developed to offer a practical alternative to the pack removal step in the tower cleaning procedure outlined in paragraph 138 of the UK Health and Safety Executives Approved Code of Practice L8, where it is not practical to remove the tower packing. Although removal of the tower pack for cleaning is regarded as best practice by the HSE, alternative methods of cleaning the tower may be considered where there are practical difficulties in doing so. The efficacy of these alternative procedures must be verified.





CIP Pack Cleaner – Antifoam (Anichem– 1001)

Product Description

Specially selected “AnichemTower Pack CIP Antifoam” is compatible with both Anichem2520 and 2522 and has been developed to counter the foaming properties of the cleaning products without leaving residues.

EVM’s range of high performance foaming tower cleaning products have been developed to offer a practical alternative to the pack removal step in the tower cleaning procedure outlined in paragraph 138 of the UK Health and Safety Executives Approved Code of Practice L8, where it is not practical to remove the tower packing. Although removal of the tower pack for cleaning is regarded as best practice by the HSE, alternative methods of cleaning the tower may be considered where there are practical difficulties in doing so. The efficacy of these alternative procedures must be verified





CIP Pack Cleaner – Neutralizer (Anichem– 1002)

Product Description

The Anichem Tower Pack CIP Neutralizer has been selected to help neutralize both excess acidity and chlorine dioxide, allowing safe disposal of the spent cleaning solution from the tower.

EVM's range of high performance foaming tower cleaning products have been developed to offer a practical alternative to the pack removal step in the tower cleaning procedure outlined in paragraph 138 of the UK Health and Safety Executives Approved Code of Practice L8, where it is not practical to remove the tower packing. Although removal of the tower pack for cleaning is regarded as best practice by the HSE, alternative methods of cleaning the tower may be considered where there are practical difficulties in doing so. The efficacy of these alternative procedures must be verified





**DBNPA, biocide
(Anichem– 1002)**

Product Description

Anichem 2028 is a superior quality 2,2-Dibromo 3-NitriloPropionamide (DBNPA) based biocide for use in cooling water systems and other applications. Anichem 2028 can be used in pulp and paper processes. 20% solution of DBNPA with penetrating and dispersing activity. The ingredients of Anichem 2028 are cleared by the FDA.

In paper mills use Anichem 2028 at between 0.05 and 0.25kg per tonne of dry fibre. Use biocides safely. Always read the label and product information before use. For further technical assistance please contact Anichem





Biocide - cooling water systems (Anichem– 2301)

Product Description

Anichem 2301 is a highly efficient polymeric cationic microbiocide developed for the control of bacteria and algae in cooling water and related systems. Anichem 2301 is a non-foaming product ideally suited for use in cooling waters to control algae and aerobic and anaerobic bacteria over a wide pH range. Anichem 2301 may also be used to control microbial problems in swimming pools and spas.

Application and dosing for Anichem 2301 - Periodic dosage is recommended to establish and maintain a reserve for approximately 4 hours of 20-200ppm depending on the severity of the contamination. Anichem 2301 can be used alone or in combination with other non-oxidising Anichem biocides or chlorine release agents. Use biocides safely. Always read the label and product information before use. For further technical assistance please contact Anichem.





**Biodegradable biocide - cooling water
systems
(Anichem– 2302)**

Product Description

Anichem 2302 is an advanced, biodegradable non-oxidising micro-biocide developed specifically for the control of microbiological growths in cooling water systems. Anichem 2302 delivers a number of significant benefits including, rapid action and biocidal activity, it is also very effective against Legionella, SRB's, algae and fungi. Anichem 2302 rapidly penetrates and disperses biofilm slimes and has an excellent environmental profile as it is readily biodegradable. Anichem 2302 can be readily monitored on site.

Application and dosing of Anichem 2302 - Anichem 2302 should be dosed periodically at a rate of 75 - 150ppm of the total system volume. In a badly fouled system an initial dosage rate of up to 250ml/m³ may be required which can be reduced once control is gained. In order to comply with Health & Safety recommendations. Anichem 2302 should be alternated with another Anichem non-oxidising or oxidising biocide. Use biocides safely. Always read the label and product information before use. For further technical assistance please contact Anichem.





Bio-dispersant - cooling water systems (Anichem– 2306)

Product Description

Anichem 2306 is a superior solution of a powerful non-ionic surface active agent and antifoam products developed as a bio-dispersant for use in cooling water systems. Anichem 2306 improves the performance of cooling systems, where fouling by microbiological slimes is reducing efficiency, by removing and dispersing the deposits. It is particularly effective in conjunction with chlorine/bromine based biocides. Anichem 2306 is effective in both re-circulating and once-through cooling systems.

Application and dosing of Anichem 2306 - Anichem 2306 should be fed continuously into the cooling system at a point where it will be mixed and uniformly distributed. The product may be diluted with water if required. For Legionella disinfection of cooling towers Anichem 2306 should be dosed at the rate of 100ml/m³ of system volume. For continuous dosage, to enhance the performance of biocide programmes in either a re-circulating or once through system, a dosage of 5-10ml/m³ of make-up should be maintained. Use biocides safely. Always read the label and product information before use. For further technical assistance please contact Anichem.





**1.5% Isothiazolin, biocide
(Anichem– 2327)**

Product Description

Anichem 2327 is a superior quality 1.5% isothiazoline based biocide developed for use in cooling water systems and other applications. Typical other applications for Anichem 2327 include pulp and paper processes, white water and several others. The ingredients of Anichem 2327 are cleared by the FDA under Regulation 21 CFR 176.300 when used as directed. NOTE - DO NOT use Anichem 2327 potable water.

Normal dosage rate for Anichem 2327 may be varied by on site biofouling tests. Use biocides safely. Always read the label and product information before use. For further technical assistance please contact Anichem.





**Quaternary biocide - ammonium based
with antifoam
(Anichem– 2327)**

Product Description

Anichem 2333 is an excellent ammonium based quaternary biocide with additional antifoam, developed for use in re-circulating cooling water systems. Anichem 2333 can be used to control both aerobic and anaerobic bacteria as well as algae and fungi. Anichem 2333 also has exceptional penetrating and dispersing characteristics.

Dosage rate for Anichem 2333 is dependent on pH. Use biocides safely. Always read the label and product information before use. For further technical assistance please contact Anichem.





**Sodium bromide - 20%
(Anichem– 2342)**

Product Description

Anichem 2342 is a superior quality 20% sodium bromide treatment product.

For additional technical support please contact Anichem.





Anichem2048. Combined scale control/anti-foulant - cooling systems

Product Description

Anichem2048 is an excellent combined antiscalant and anti-foulant for cooling water systems. Anichem2048 is designed to inhibit scale formation and fouling in cooling water systems. Anichem2048 is particularly effective against carbonate and sulphate deposition and in dispersing clay, mud and silt. Anichem2048 represents no effluent problems. This product contains carboxylic acid and acrylates.

Dose Anichem2048 continuously to promote 20 - 60ppm within the circulating water. For further technical assistance please contact EVM

