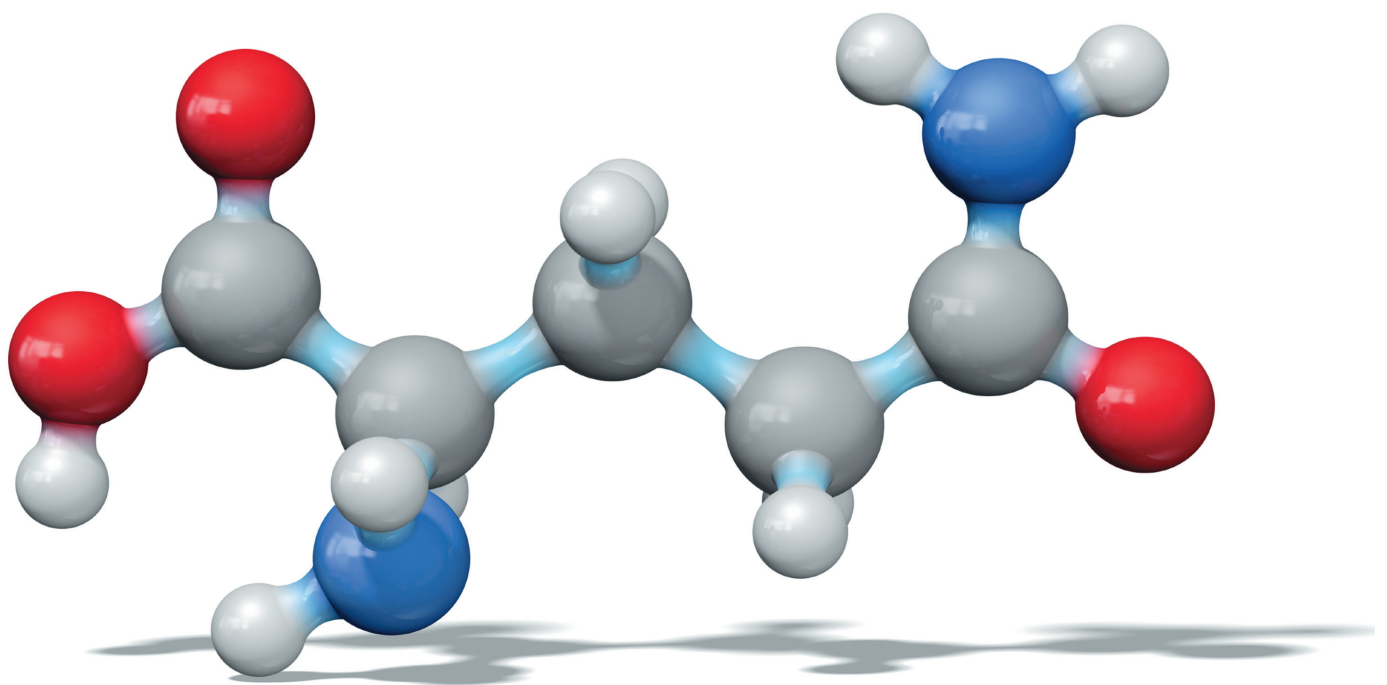




Treatment  
**4**Water



**Product Guide**

# TEC Technology Experience Chemistry

Our philosophy is to manufacture high quality proven water treatment formulations for supply into the water treatment market. Our formulatory experience is second to none. All our chemists have a wealth of industry specific experience and our chief chemist is a Fellow of the Royal Institute of Chemistry (RSC).

T4W's aim is to utilise our broad chemistry and business experience to deliver innovative solutions to our customers. A combination of our wealth of experience, high quality products and technology innovation delivers value.

Our sole focus is the manufacture of industrial water treatment chemicals for supply exclusively to water treatment companies & OEM's . We offer a "Non Compete" guarantee.

Research & Development is at our core, we are continually searching for products and formulations to challenge the traditional. We pride ourselves on rising to technical challenges presented by our customers .

The extensive experience of our team enables us to provide comprehensive technical back up to our customers from product selection through to support for specific site challenges. Our ethos is to view customers as business partners offering to engage in their challenges.

Technology is central to our business which is operated through our secure on-line portal. Customers have the ability to utilise the secure personalised area of the portal to assist in their operations. Our customers can use the portal for the following tasks:

- **Chemical Ordering**
- **Site specific contract monitoring (cumulative volumes, per chemical per site)**
- **Ability to set hi/low alarms for chemical use per site**
- **Real time monitoring on each individual chemical delivery**
- **Proactive e-mails notification for individual deliveries**

Our portal technology is designed to provide each customer with bespoke software to automatically calculate dosing regimes for the following applications:

- **Steam systems**
- **Heating & chilled water**
- **Open cooling**
- **Reverse osmosis & desalination systems**

This removes the need for long hand calculations, inserting the appropriate customer products at the recommended dose rates, eliminating errors.

We take customer confidentiality very seriously. T4W has voluntarily signed up to the Data Protection Act. In addition, all of our customers' information is held on secure servers at external data centres, backed up and encrypted, giving customers complete confidence that data entered on the secure area of portal is protected both physically and legally.

Quality - We have committed to working towards both ISO standards 9001 & 14001. All of our products are manufactured at our factory in Yorkshire. Stocks of finished products are held there and also at our own warehousing facility located off the M3 corridor in Hampshire. We produce over 150 formulations with most of these products being stocked ready for dispatch at one of our facilities.

We can accommodate most products in a variety of pack sizes from 5 Litres through to IBC's and pump over delivery services up to 27 ton tanker loads.

All products produced are subject to full ADR regulations and documentation is produced by our Dangerous Goods Safety Advisor (DGSA).

Products are colour labelled with our customers' details for the professional corporate look. Supporting documentation is supplied for each product in the form of current CHIP & REACH compliant Safety Data Sheets (SDS's) supplied in the customer's name complete with logo and colours. Product technical sheets are also available as word documents for customers to use as they see fit.

T4W business is not restricted to the UK and as such we work with many companies overseas and also UK-based organisations who export our products to overseas markets. We have the capability to facilitate export orders taking care of issues such as container loading documentation, compliance with IMDG regulations, speciality packing for air & sea freight and even facilitation of letters of credit.

Our areas of speciality are:

- **Steam Boilers**
- **Cooling Towers**
- **Closed systems (cooling & heating)**
- **Pre-commission cleaners**
- **Reverse Osmosis Systems**
- **Domestic H&CWS Sanitizers**

## Contact Us...

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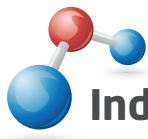
P: Herriard Park, Herriard, Hampshire, RG25 2PL, United Kingdom

Find us on:   



# Industrial Boiler Water Treatment Chemicals

SYN-PLEX		Properties	Dosing and Control
101	Alkalinity Builder	pH & Alkalinity correction in feed and boiler water Freezing Point 7°C	Minimum 200mg/L as CaCO <sub>3</sub> OH <sup>-</sup> alkalinity 1.1(B/C + H-M)
105	Alkalinity Builder	pH & Alkalinity builder Low freezing Point < -10°C	1.8(B/C + H-M) Minimum 200mg/L CaCO <sub>3</sub> OH <sup>-</sup> alkalinity
113	Medium - High pressure water tube boiler	2.8-2.7 Ratio Na:PO <sub>4</sub> Co-ordinated /Congruent phosphate	Dependant on operating boiler pressure usually 15-30mg/L as PO <sub>4</sub>
114	Low pressure boiler	Calcium hardness precipitant suitable for high alkalinity feed waters	3.3 (B/C + 0.6H) 30 - 70mg/L as PO <sub>4</sub>
170	Boiler Water Conditioner	Polymer, Phosphate Sequestrant	4.2(B/C + 0.6H) 30 - 70mg/L as PO <sub>4</sub>
178	All in One Product Small Boilers	Phosphate, Polymer ,Tannin Reduced conductivity contribution	100mg/L of product to boiler to achieve a reserve of 30 - 70mg/L as PO <sub>4</sub>
178SE	All in One Product Small Boilers	Phosphate, Polymer & Erythorbate. Metal passivator	100mg/L of product to boiler to achieve a reserve of 30 - 70mg/L as PO <sub>4</sub>
179	All in One Product Small Boilers	Alkalinity builder, Phosphate, Polymer, Tannin reduced conductivity contribution	100mg/L of product to boiler to achieve a reserve of 30 - 70mg/L as PO <sub>4</sub>
179SE	All in One Product Small Boilers	Alkalinity builder, Phosphate, Polymer & Erythorbate. Metal passivator	100mg/L of product to boiler to achieve a reserve of 30 - 70mg/L as PO <sub>4</sub>
180	All in One Product Small Boilers	Phosphate, Polymer Alkali, Catalysed Sulphite and Iron Sequestrant , Low FW Temp	50 - 70mg/L as Na <sub>2</sub> SO <sub>3</sub> 42mg/L per 1mg/L O <sub>2</sub>
190	All in One Product Small Boilers	Phosphate, Polymer Alkali, Catalysed Sulphite and Iron Sequestrant, Higher FW Temp	50 - 70mg/L as Na <sub>2</sub> SO <sub>3</sub> 62mg/L per 1mg/L O <sub>2</sub>
194	Antifoam	Block Co-polymer suitable for boiler water applications	50 - 200mg/l in Boiler water



# Industrial **Boiler** Water Treatment Chemicals

## SYN-OTROX

### Properties

### Dosing and Control

<b>202</b>	Oxygen scavenger and Metal Passivator	Low solids Scavenger/Metal Passivator aids MAGNETITE formation	Tannin reserves 120-160 mg/L
<b>216</b>	Oxygen scavenger	Catalysed liquid bisulphite Sulphite reserves of 30-70 mg/L in boiler	$1.5(B/C + 8(O_2))$ 30 - 70mg/L as $SO_3$
<b>223</b>	Medium - High pressure boiler	Volatile Oxygen scavenger/metal passivator (DEHA)	17.6 : 1 mg/L $O_2$ DEHA Reserve of 0.5mg/L in condensate
<b>226</b>	Medium - High pressure boiler	Non-Volatile oxygen scavenger and metal passivator (Carbohydrazide)	55:1 mg/L for 1 mg/L $O_2$ in feed water

## SYN-AMINE

### Properties

### Dosing and Control

<b>310</b>	Steam Line and Condensate	Cyclohexylamine High distribution ratio for long Condensate lines	Monitor condensate @ pH8.5 2.5 x feed water alkalinity
<b>330</b>	Steam Line and Condensate	DiEthylAminoEthanol (DEAE) Mid range distribution ratio	Monitor condensate @ pH8.5 2.5 x feed water alkalinity
<b>340</b>	Steam Line and Condensate	Morpholine Low distribution ratio for Short condensate lines	Monitor condensate @ pH8.5 2.5 x feed water alkalinity
<b>350</b>	Steam Line and Condensate	Morpholine & Cyclohexylamine wide distribution ratio for long Condensate lines	Monitor condensate @ pH8.5 2.5 x feed water alkalinity
<b>386</b>	Steam Line, Condensate and HPHW Systems	High Distribution Ratio amine plus oxygen scavenger and passivator	Monitor condensate @ pH8.5 4 x feed water alkalinity HPHW Systems initial fill 1%

**B=mg/l control parameter in the system**  
**H=Calcium Hardness in mg/l as  $CaCO_3$**

**C=Concentration Factor**  
**M=Total Alkalinity in mg/l as  $CaCO_3$**



## Industrial Closed System Water Treatment Chemicals

SYN-QUEST		Properties	Dosing and Control
421M	Inhibitor Multi-metal systems Including Aluminium	Alkanolamine, Azole, Co-polymer, Molybdate, Phosphonate,	Fill up charge : 4 litres/m <sup>3</sup> Monitor MoO <sub>4</sub> at $\geq 250$ mg/L
421MB	Inhibitor Multi-metal systems Including Aluminium	Alkanolamine, Azole, Biocide , Co-polymer, Molybdate, Phosphonate,	Fill up charge : 4 litres/m <sup>3</sup> Monitor MoO <sub>4</sub> at $\geq 250$ mg/L
429	Inhibitor Multi-metal systems Except Aluminium	Azole, Co-polymer, Molybdate, Nitrite,	Fill up charge : 4 litres/m <sup>3</sup> Monitor NaNO <sub>2</sub> at 450-600mg/L
431	Inhibitor Multi-metal systems Except Aluminium	Azole, Biocide, Co-polymer Nitrite, Phosphonate,	Fill up charge : 4 litres/m <sup>3</sup> NaNO <sub>2</sub> maintain reserve 1,000mg/L
432	Multi-metal systems Except Aluminium	Azole, Co-Polymer, Nitrite, Silicate for Low Hardness waters Max 100 mg/L as CaCO <sub>3</sub>	Fill up charge : 4 litres/m <sup>3</sup> NaNO <sub>2</sub> maintain reserve 1,000mg/L
436	Inhibitor Multi-metal systems Except Aluminium	Azole, Co-polymer, Nitrite, Phosphonate	Fill up charge : 3 litres/m <sup>3</sup> NaNO <sub>2</sub> maintain reserve $\geq 250$ mg/L
438M	Inhibitor Multi-metal systems	Alkanolamine, Azole, Co-Polymers, PCA , Phosphonates	Total Organic alkalinity titration Fill up charge : 6 litres/m <sup>3</sup>
482M	Inhibitor Multi-metal systems Except Aluminium	Alkali, Polymer, Tannin	Fill up charge : 3 litres/m <sup>3</sup> Maintain a Tannin reserve of 100 - 160 mg/L



## Industrial Open Cooling Water Treatment Chemicals

SYN-QUEST		Properties	Dosing and Control
419	Halogen Stable Scale & Corrosion inhibitor	Azole, Phosphonate, Polycarboxylate, Zinc Salt Max. pH 8.4 in system	Maintain 40 - 60mg/L in system Measure 2-3 ppm as Zinc
420	Corrosion inhibitor	Azole, Dual Phosphonates, Molybdate. Calcium 65 mg/L (min) as CaCO <sub>3</sub> in system	100 - 140mg/L in the system Maintain 5 - 7mg/L as MoO <sub>4</sub>
436	Corrosion inhibitor	Azole, Co-Polymer, Synergised Nitrite - Phosphonate Low hardness or softened waters	350 - 600 mg/L in system Maintain NaNO <sub>2</sub> at 60-100 mg/L
450	Corrosion inhibitor Softened water	Azole, Organic and inorganic phosphate, Polymer, Sequestant, & Silicate Max. Hardness 100 mg/l as CaCO <sub>3</sub>	80 - 120mg/L in system or as the corrosivity of the water dictates
452	Corrosion inhibitor Softened water	Polymer, Silicate Some hardness beneficial	80 - 100mg/L in system 25-30mg/L Silicate as SiO <sub>2</sub>
469	Halogen Stable Scale Control	Polymers, Phosphonate Excellent threshold & crystal Distortion Scale control for CaCO <sub>3</sub>	40 - 60mg/L in system water
471M	Halogen Stable Scale & corrosion inhibitor	Acid formulation containing phosphonates	Dependant on system alkalinity
478	Halogen Stable scale & corrosion inhibitor	Phosphonate, Polymers Total organic	80 - 120mg/L in system water
478BR	Halogen Stable scale & Corrosion inhibitor	Bromide, Phosphonate, Polymers Hypochlorite required to Activate Bromide	80 - 120mg/L in system water
570	Corrosion inhibitor	Alkyl diamine salt Cationic adsorption inhibitor for any water	Dose 12 -15mg/L as product to cooling tower



# Industrial Biocide Water Treatment Chemicals

## SYN-TROL

## Properties

## Dosing and Control

<b>501</b>	Algae F Bacteria G Fungi G	FORMALDEHYDE RELEASE. Broad Spectrum. Open systems	Shot dose 30-500 mg/L Broad pH Range
<b>503</b>	Algae E Bacteria G Fungi G	BI-GUANIDE Non-Oxidising Fast Acting Broad spectrum. Cationic may foam	Shot dose 100 mg/L pH range up to 9.5
<b>505</b>	Algae F Bacteria G Fungi F	BENZALKONIUM CHLORIDE Non Oxidising Broad spectrum Cationic may foam	Shot dose 50-100 mg/L pH range of 6.5-8.5
<b>512</b>	Algae P Bacteria G Fungi G	BRONOPOL Non-Oxidising Fast Acting Open systems	Shot dose 80-300 mg/l pH range 6+
<b>514</b>	Algae E Bacteria G Fungi E	QUATERNARY AMMONIUM Non-Oxidising broad spectrum. Open systems.	Shot dose 50-100 mg/ pH range 6.5-8.5
<b>515</b>	Algae F Bacteria G Fungi F	ISOTHIAZOLINONES Non-Oxidising slow acting Broad Spectrum, non-ionic	Shot Dose 50 - 120mg/L based on system volume
<b>516</b>	Algae G Bacteria E Fungi G	TKPS Non Oxidising slow acting broad spectrum	Shot Dose 30 - 100mg/L based on system volume
<b>524</b>		SODIUM BROMIDE Used in conjunction with Hypochlorite to generate Hypobromous acid	Dose 1 - 3 mg/l Bromide to system
<b>526</b>	Algae G Bacteria E Fungi G	STABILIZED BROMINE Oxidising Fast Acting Broad Spectrum	Dose to maintain 0.5 - 2 mg/L Halogen

### Highlighted Products

### Legionella Control Preferred Biocide

Biocide Efficacy

E - Excellent G - Good F - Fair P - Poor





# Industrial Biocide Water Treatment Chemicals

## SYN-TROL

## Properties

## Dosing and Control

<b>528</b>	Algae F Bacteria E Fungi F	SODIUM HYPOCHLORITE Oxidizing Fast Acting	Dose to maintain 1 - 3 mg/L as free Cl <sub>2</sub>
<b>555C</b>	Algae P Bacteria E Fungi F	DBNPA Non Oxidising Fast Acting Broad spectrum pH range up to 9.5	Shot dose 25 - 50 mg/L
<b>536</b>	Algae E Bacteria E Fungi E	7% SODIUM CHLORITE ClO <sub>2</sub> Precursor	Dose to maintain 0.5 - 2 as ClO <sub>2</sub> (Refer to operating instructions dosing unit )
<b>539</b>		9% HYDROCHLORIC ACID ClO <sub>2</sub> Activator	Refer to operating instructions for dosing unit above
<b>564</b>	Algae F Bacteria E Fungi E	BCDMH Oxidizing Open System	Maintain 0.4mg/L as HOBr in cooling water
<b>587</b>	Bacteria G Fungi G	THIOCARBAMATE Non-Oxidizing (Pseudomonas recommended) biocide in both open & closed systems	Dose 30 - 100mg/L to system
<b>TR50</b>	Algae E Bacteria E Fungi E	Huwa-San - Silver Peroxide Oxidizing - Cooling & DHCWS system	Dose 150 mg/L to system
<b>TR7.9</b>	Algae E Bacteria E Fungi E	Huwa-San - Silver Peroxide Oxidizing - Cooling & DHCWS system	Dose 1000 mg/L to system

### Highlighted Products

### Legionella Control Preferred Biocide

Biocide Efficacy

E - Excellent G - Good F - Fair P - Poor



## Industrial Cleaning Water Treatment Chemicals

SYN-CLENE		Properties	Dosing and Control
801	Shower head Cleaner	Descaling & sanitising agent with spent product indicator. Legionella bacteria efficacy	1 Part SYN-CLENE 801 : 3 parts water
805	General Purpose Dispersant	Non Ionic Chlorine enhancer - Dispersant Biofilm, Mud, Oil, Silt	50 - 1,000mg/L
857	Acid Cleaner	Phosphoric Acid, Non Ionic wetting agent for Stainless steel plate heat exchangers, plastic moulding units.	Normal use level 1 -3% based on system volume
858	Acid Cleaner	Citric Acid Calcium Carbonate, iron oxide sequestration	Normal use level 1 -3% based on system volume
860	Iron and Copper oxide remover	Ammonium Citrate, wetting agent Non Ionic	Normal use level 3-4% based on system volume
870	Resin Cleaner	Alkaline Phosphonate	Use level 20 mg/kg salt used in regeneration
872	Pre-commission and closed circuit cleaner	Betain, Phosphonate, Polymer, Sequestrant	Normal use levels 1 - 3% based on system volume
874	Pre-commission and closed circuit cleaner	Betain, Phosphonate, Polymer, Sequestrant	Normal use levels 0.5- 1.5% based on system volume
880	Inhibited Acid	28% Inhibited Hydrochloric Acid	Normal use levels 5-25% based on system volume

## **A tested and proven ecological and health sustaining alternative is now available with Huwa-San™ Stabilized Peroxide.**

Since 2004, this food grade peroxide has delivered clean drinking water in complex water systems across Europe and beyond but without the cancer-causing by-products attributed to other disinfection regimes.

As of 2010, it has also obtained National Sanitation Foundation (NSF) approval (STD 60) with allowed residual peroxide at the tap. At 8 mg/L, it will ensure clean water at all outlets.

### **Take charge of your drinking water today.**

The Huwa-San Peroxide Water System provides clean drinking water, without compromising our health or the environment. This food grade, NSF certified peroxide is cost-effective, affordable and ensures protection from waterborne bacteria and viruses in a complex water system, while providing oxygen-rich water without disinfection by-products. Huwa-San Peroxide is compatible with existing water conditioners and filters, extending their life-span and efficiency.

Don't take any risks with your complex water system.



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