

SUGAR &  
ETHANOL  
PRODUCTION

WATER  
TREATMENT  
PRODUCTS



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RAW WATER TREATMENT		
CATEGORY	PRODUCT	CHARACTERISTICS
POLYELECTROLYTES FOR WATER CLARIFICATION	BULAB®5031	Highly cationic liquid polymer that is effective in the removal of suspended solids and turbidity from Industrial raw water, waste water and potable water. The typical dosage rates vary between 1 to 10 mg/l depending on the turbidity of the water to be clarified. It is certified for use as a coagulant and flocculant in potable water treatment per the NSF/ANSI Standard 60 for Drinking Water Treatment Chemical. Maximum use for Potable Water is 10 mg/L.
	BULAB®5083	Highly cationic liquid polymer that is effective in the removal of suspended solids and turbidity from Industrial raw water, waste water and potable water. It is a one package product comprising an inorganic coagulant and a cationic polyelectrolyte. The typical dosage rates vary between 1 to 20 mg/l depending on the turbidity of the water to be clarified. Maximum use for Potable Water is 100 mg/L.
	BULAB®5161	Highly cationic liquid polymer that is effective in the removal of suspended solids and turbidity from Industrial raw water, waste water and potable water. It is a one package product comprising an inorganic coagulant and a cationic polyelectrolyte. The typical dosage rates vary between 1 to 20 mg/l depending on the turbidity of the water to be clarified. Maximum use for Potable Water is 38 mg/L.
	BULAB®5170	An inorganic coagulant for the clarification of Industrial raw water, waste water and potable water. The typical dosage rates vary between 1 to 20 mg/l depending on the turbidity of the water to be clarified. Maximum use for Potable Water is 200 mg/L.
WATER DISINFECTANT	BULAB® 6002	A polymeric quaternary ammonium based product for effective control of algae, bacteria and fungi in industrial raw water, system water and potable water. It is non-foaming and effective over a wide pH range. It can also be effectively applied with an oxidizing biocide. The typical dosage rates vary between 2 to 20 mg/l but limited to 2 mg/l for potable applications.
	BULAB® 6044	An oxidising biocide for the control of bacteria and algae in industrial raw water, system water and potable water. Dosage will be dependent on the oxidant demand of the water with a free residual of 0.3mg/l to 1.0 mg/l free chlorine typically targeted for potable applications.
	BULAB® 6152	An effective broad-spectrum biocide containing ammonia solutions for effective control of bacteria, algae and fungi in industrial raw water, system water and potable water. It is effective at neutral to alkaline pH. Maximum use for Potable Water is 5 mg/L.

COOLING WATER TREATMENT		
CATEGORY	PRODUCT	CHARACTERISTICS
MICROBIAL CONTROL	BULAB® 6026A	Controls bacteria and other microorganisms that produce hydrogen sulphide and cause corrosion, odours, increased solids and other problems in cooling water systems. Bulab 6026A also effectively controls iron bacteria in both open and closed re-circulating cooling water systems and in industrial process water systems. When necessary, a typical slug dosage would be 125 mg/l repeated as needed until control is maintained. Then continuous treatment with Bulab 6026A should be made at a rate required to provide a residual of 5 – 50 mg/l of water treated.
	BULAB® 6042	A broad-spectrum microbicide used in industrial cooling systems that is effective in the control of bacteria, yeast, and fungi. The product is particularly effective in controlling sulphate-reducing bacteria (SRB). It provides quick action against troublesome bacteria, especially in alkaline systems. Bulab 6042 can be used alone or in combination with other Buckman microbicides or organic penetrants. The product is dosed at 50 mg/l until control is achieved then a maintenance dosage of 20 to 40 mg/l is applied. A caution is that the product has slight foaming potential at dosages greater than 47 mg/l.
	BULAB® 6044	An aqueous solution of sodium hypochlorite used as an oxidising microbicide in open recirculating and once-through cooling water systems for the control of bacteria and algae. Dosage will be dependent on the oxidant demand of the water with a free residual of 0.5 to 2.0 mg/l free chlorine typically targeted for cooling water applications.
	BULAB® 8152	A liquid penetrant and dispersant used in the treatment of industrial and commercial cooling water systems. It effectively controls organic deposits that can impede heat transfer and increase maintenance costs. Bulab 8152 ensures that surfaces are clean so that they can be passivated and protected by corrosion inhibitors. The product is typically dosed between 1 to 20 mg/l.
SCALE CONTROL	BULAB® 7086	A synergistic blend of polymers designed to control true scale, scale-like and sedimentary deposits. The product is free of phosphorous-containing active ingredients. In cooling water systems with corrosive water characteristics supplementary dosage of a corrosion inhibitor will be required. Effective scale control is achieved at dosages of between 20 to 70 mg/l. Dosage rate will be determined based on the scaling potential of the system water.
CORROSION CONTROL	BULAB® 9157	A corrosion inhibitor designed for use in closed cooling systems. The product contains a synergistic blend of corrosion inhibitors which effectively controls corrosion in ferrous and non-ferrous metal systems. It also contains a buffering agent. The presence of a low molecular weight polyelectrolyte acts as a combination sludge dispersant and scale inhibitor. Bulab 9157 is compatible with the common closed system antifreezes and brine solutions.
	BULAB® 9334	A combination of scale and corrosion inhibitors. Combining the superior scale inhibiting properties of polyacrylates and phosphonates with the versatile corrosion inhibiting properties of stabilised zinc, it provides a one-package treatment for cooling water systems. Corrosion control is maintained over a broad pH range of water conditions, including both low and high hardness and alkalinity. Bulab 9334 provides both cathodic and anodic corrosion protection. Bulab 9334 is designed for use in systems where an oxidising agent, e.g. chlorine, is used to control microbiological activity. It should be dosed at between 100 and 120 mg/l to maintain good protection of a cooling system. A new system or following a mechanical or chemical clean of a system should be slug dosed with 200 to 300mg/l Bulab 9334 to achieve good system passivation.
	BULAB® 7120	A combination of corrosion inhibiting, scale inhibiting and dispersing compounds designed predominantly for corrosion control in industrial water supplies and cooling water systems. It provides both cathodic and anodic protection of ferrous metals. By effectively inhibiting corrosion, Bulab 7120 minimises the formation of corrosion by-products and consequently improves operating conditions throughout the system. As a scale inhibitor, it increases the solubility of inorganic salts, promotes crystal modification and enhances silt dispersion. Bulab 7120 also has a synergic effect with other scale prevention products. It should be dosed at between 20 and 40 mg/l to maintain good protection of a cooling system.

BOILER WATER TREATMENT		
CATEGORY	PRODUCT	CHARACTERISTICS
ANTIFOAM	BUBREAK® 4162	Bubreak 4162 is a high active, fast knockdown defoamer for use in controlling foam in water systems which may include boilers and evaporators. Bubreak 4162 has been specially formulated to produce excellent defoaming properties. Bubreak 4162 outperforms the natural oil and synthetic glycols widely used to control foam in water systems.
ALKALINITY CONTROL	BULAB® 9558	An alkalizer used to control the pH and alkalinity in low and medium pressure boilers. The product can be dosed to the required pH or used during a chemical clean at dosage between 400mg/l and 10% on its own or in combination with compatible surfactants.
OXYGEN SCAVENGERS	BULAB® 9602	A catalyzed sodium bisulphite designed to protect boiler and feedwater systems from oxygen attack. It rapidly reacts with feedwater oxygen even at lower temperatures. It can be used in conjunction with neutralising amines to protect condensate systems from oxygen attack which can reduce iron levels in the returning condensate and provide an increased level of protection from iron deposition in the boiler. BULAB 9602 is also useful in wet storage of boilers to provide protection from oxygen attack. Include recommended pressures (catalysed sulphite). The dosage rate will vary based on the system specific parameters and will be 16.3 mg/l x BFW ppm O <sub>2</sub> (+ required residual calculated for system).
	BULAB® 9605	A catalyzed liquid oxygen scavenger and metal passivator designed to protect the boiler and feedwater system from oxygen attack. BULAB 9605 is volatile and will carry over with the steam to help protect the condensate system from oxygen attack and promote the formation of magnetite in the condensate return system. This can reduce iron levels in the returning condensate and provide an increased level of protection from iron deposition in the boiler. It is recommended for boilers operating over 900 PSIG (62 bar). The product is dosed at 12 mg/l x BFW O <sub>2</sub> (+0.1 to 0.5 mg/l residual).
SCALE INHIBITION	BULAB® 8142	A co-polymer specifically designed to inhibit true calcium sulphate, calcium carbonate, iron and phosphate deposits under a wide range of operating conditions. It is suitable in high salinity water and in food industry applications. Differential scanning calorimetry has shown that Bulab 8142 is stable up to a temperature of 200°C. (FDA 21 cfr 173.310). The ingredients in Bulab 8142 are approved under 21 CFR § 173.310 for use in boiler systems in FDA regulated plants.
	BULAB® 9690	Bulab 9690 is a blend of polymers and sequestrant designed for use in boilers with operating pressures up to 41 bar (600 psig). This product will inhibit the formation of mineral deposits and disperse iron to improve boiler efficiency. Bulab 9690 is formulated to be particularly effective in systems that experience periodic feedwater upsets or have high levels of hardness contamination. Bulab 9690 is designed to be used alone as an all-organic internal treatment but can also serve as an adjunct with other internal treatment programs. The ingredients in Bulab 9690 are approved under 21 CFR § 173.310 for use in boiler systems in FDA regulated plants. The chelant is considered biodegradable (>60% within 28 days) as per the international OECD 301D test protocol. (Food approved - <b>SANS 1827</b> approval)
	BULAB® 9534	An internal boiler water treatment designed for boilers operating at pressures below 1200 psig. It is recommended for use in boilers using softened or softened/dealkalized makeup water. BULAB 9534 combines polyphosphate with polymeric scale inhibitors and dispersant/sludge conditioners to provide protection against mineral scale and/or sludge deposits that interfere with heat exchange. FDA compliant: 21 CFR 173.310

<b>CONDENSATE CORROSION TREATMENT</b>	<b>BULAB® 9707</b>	An aqueous solution of a low volatility neutralising amine, suitable for use in short condensate systems where corrosion due to low pH is a problem. The product is designed to cover a single distribution ratio so that the product's neutralising ability is concentrated in the first stage of condensation. FDA compliant: 173.310 (<=10mg/l) & 172.235,175.105 and 176.210
	<b>BULAB® 9708</b>	An aqueous blend of neutralising amines, suitable for use in a wide variety of applications where condensate corrosion due to low pH is a problem. The product is designed to cover a range of distribution ratios (DR:2.4) so that a single application of the product to the main steam header should maintain condensate pH in most plant areas. In some situations, it may be necessary to feed supplemental product to handle very extended steam systems. The product is dosed to maintain a pH of 8.5 in the farthest sampling point while monitoring and maintaining minimum iron levels (i.e. <0.1ppm).
	<b>BULAB® 9710</b>	An aqueous blend of neutralising amines, suitable for use in a wide variety of applications where condensate corrosion due to low pH is a problem. The product is designed to cover a range of distribution ratios (DR:1.1) so that a single application to the main steam header should maintain condensate pH in most plant areas. In some situations, it may be necessary to feed supplemental product to handle very extended steam systems. The product is dosed to maintain a pH of 8.5 in the farthest sampling point while monitoring and maintaining minimum iron levels (i.e. <0.1ppm).