



POSCA™ Fact Sheet

POSCA BOILER WATER TREATMENT

- Incorporates threshold inhibition technology
- Proven polymer blends
- Cost savings through reduced maintenance
- Routine boiler water treatment assessment
- Easy handling (available in drums, totes, and bulk)

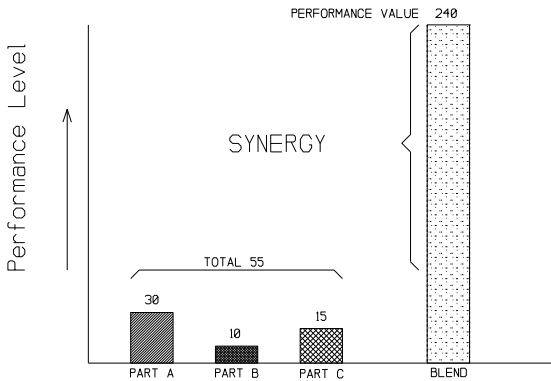
The result is a precipitation of the excess carbonates, which become hard, rigid deposits on heat-transfer surfaces in a boiler. This deposition acts as insulation, which reduces the heat-transfer capability and significantly increases fuel consumption. The insulating properties of these deposits also subject metal surfaces to excessive temperatures, which can cause them to crack, blister, or rupture. In extreme cases, complete system failure occurs. Mineral deposits result in increased maintenance and fuel costs, which can reduce equipment life.

PRODUCT DATA

CH₂O's POSCA™ products are synergistic blends of synthetic dispersing polymers, sequestering, and chelating agents that increase the solubility of minerals in steam boilers. The product line includes variations of formulas using oxygen scavengers, corrosion inhibitors, alkalinity builders, dispersing polymers, and condensate system corrosion inhibitors.



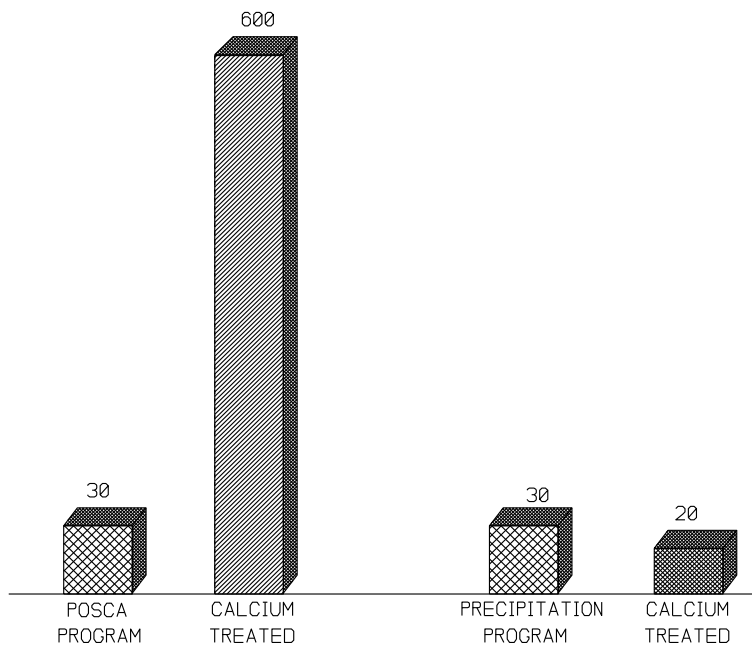
*Untreated Mineral Crystal vs. Treated Mineral Crystals
 POSCA™ Boiler Water Treatment crystal distortion.*



PRODUCT APPLICATION

All natural water contains dissolved mineral salts such as calcium, magnesium, and iron bicarbonates. As the temperature of the water increases, these bicarbonates decompose into calcium, magnesium, and iron carbonate salts. These carbonate salts are much less soluble than the bicarbonates.

Chemical treatment levels in a boiler will be above or below the recommended residual range intermittently. During these times, minerals may precipitate out of solution and form deposits. When this occurs, a phosphate-based program is inadequate. POSCA™ incorporates synthetic dispersing polymers, which adsorb the solid during the process of precipitation. Such adsorption alters the growth pattern causing the solid to form slowly and become highly distorted. The distorted solid is easily dispersed during blow down.



THE THRESHOLD ADVANTAGE

The POSCA program's superior ability to treat hardness ions compared to a typical precipitation program.

The **POSCA™** Boiler Water Treatment program is based on Polymerized Organic, Sequestering and Chelating additives which ensure the solubility of minerals when used at a substoichiometric level. This type of treatment is commonly called threshold inhibition. Laboratory tests have shown that only 1ppm of active POSCA has the ability to inhibit the precipitation of 600 ppm of calcium carbonate for at least 7 days at room temperature and a pH of 8.5. The normal solubility of calcium carbonate in these conditions is approximately 15 ppm. The POSCA program utilizing threshold inhibition is more cost-effective than the typical, phosphate-based method of boiler water treatment.

Daily testing is recommended to maintain proper control. Failure to monitor and maintain treatment levels may cause damage. It is the customer's responsibility to ensure recommended treatment levels are maintained.

Seller Warranty

CH₂O brand test reagent refills are available through your sales representative at no charge. Customers are required to confirm product compatibility via a control test for their specific application. CH₂O recommends that you perform regular/daily testing to control chemical levels and cycles of concentration within established limits. Additional tests may be performed at your request. Test reports reflect conditions at the point when the analysis was performed. Results will change over time and with varying operating conditions.

Seller warrants that this product conforms to its chemical description and is reasonably fit for the purpose referred to in the directions for use when used in accordance with the directions under normal conditions. Buyer assumes the risk of any use contrary to such directions. Seller makes no other warranty or representation of any kind, express or implied, concerning the product, including NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS OF THE GOODS FOR ANY OTHER PARTICULAR PURPOSE. No such warranties shall be implied by law and no agent of seller is authorized to alter this warranty in any way except in writing with a specific reference to this warranty. The exclusive remedy against seller shall be a claim for damages not to exceed the purchase price of the product, without regard to whether such a claim is based upon breach of warranty or tort. Jurisdiction for any issues arising from or relating to this product shall be in the courts of the State of Washington and the venue shall be Thurston County. Any controversy or claim arising out of or relating to this contract, or breach thereof, shall be settled by arbitration in accordance with the rules and procedures as stated in RCW 7.06 and shall be binding upon both parties without right to appeal, and judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.

Applies to all products sold by CH₂O, Inc., and is hereby communicated to all of its customers as a condition of sale. Use of CH₂O products is subject to the Standard Terms and Conditions as listed on CH₂O, Inc.'s website at: www.ch2o.com.