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# 6374 RETURN CONDENSATE TREATMENT

### APPLICATION

Carbon dioxide gas is created in boiling water by the heat destruction of bicarbonate and carbonate impurities. This gas leaves the boiler with the steam generated and enters steam utilization components of the heating system. As the steam condenses and cools the carbon dioxide dissolves back into the now pure water. Water and carbon dioxide react together forming highly corrosive carbonic acid. Carbonic acid is notorious for etching iron alloys creating iron compounds which are readily soluble in water. The activity causes metal loss damage and is a significant problem to commercial and industrial heating systems.

CH<sub>2</sub>O SELECTA-MEEN PRODUCTS are organic amines, which due to their base characteristics neutralize acids. They are volatile and vaporize with water during steam generation. Thus, the volatile amine enters the steam utilization in the same way as carbonic acid. As the steam condenses and cools the volatile amine condenses and becomes available to neutralize carbonic acid.

All amines do not have the exact same behavior in the condensation process. The point at which they condense is varied. When the utilization process is a short distance this does not present a problem. When steam piping is extensive the points of amine and carbonic acid condensation differ significantly. SELECTA-MEEN product **6374** is a blend of two amines to provide an outstanding solution to this problem.

### SAFETY & HANDLING PROCEDURE

This product is a moderately alkaline liquid. Wear protective clothing and face protection when handling. Avoid prolonged or repeated exposure to this product and its vapors. Read and thoroughly understand the Material Safety Data Sheet before handling this product.

### FEEDING TECHNIQUE

Inject directly into the boiler or steam header. It can be mixed and fed with other water treatment chemicals if desired.

### DOSAGE & CONTROL

Maintain a residual sufficient to raise the condensate pH to alkaline values. Best results can be obtained if sufficient product is used to neutralize the return condensate to a pH range of 7.8 to 8.8. The actual dosage will depend upon the carbonate and bicarbonate impurity levels in the boiler water. The impurity levels are affected by the percentage of condensate returned to the system, feed water processing and makeup water quality. Contact your local CH<sub>2</sub>O water treatment representative for further information on analytical testing. Daily testing is recommended to maintain proper control. Failure to monitor and maintain treatment levels can cause damage. It is the customer's responsibility to monitor and maintain treatment levels.

### PHYSICAL PROPERTIES

pH of 1% Solution .....	11-12.5
Pounds per Gallon .....	8.2-8.7
Physical Appearance .....	Light Yellow
Odor .....	Ammonical
Flash Point .....	>141°F

### Seller Warranty

CH<sub>2</sub>O 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. CH<sub>2</sub>O 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 CH<sub>2</sub>O, Inc., and is hereby communicated to all of its customers as a condition of sale. Use of CH<sub>2</sub>O products is subject to the Standard Terms and Conditions as listed on CH<sub>2</sub>O, Inc.'s website at: [www.ch2o.com](http://www.ch2o.com).

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