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Technical Data Sheet.

# SC-BW-603

## CONDENSATE TREATMENT

T.D.S

Revision Date:2026-05-04

## DESCRIPTION & USE

SC-BW-603 is a concentrated neutralizing amine-based condensate treatment specifically developed for the control of corrosion in steam distribution and condensate return systems. The product is formulated with carefully selected volatile neutralizing amines that vaporize with the steam and travel throughout the entire steam-condensate circuit, providing corrosion protection at points where conventional boiler water treatments cannot reach.

During steam generation, dissolved carbon dioxide present in the boiler feedwater is released with the steam and subsequently condenses in steam lines and condensate systems. When this carbon dioxide dissolves in condensate water, it forms carbonic acid, lowering the condensate pH and creating highly corrosive conditions in condensate piping, receivers, heat exchangers, and other downstream equipment. If left untreated, these acidic conditions can result in severe metal loss, premature equipment failure, increased maintenance costs, and contamination of the boiler system with corrosion products.

SC-BW-603 effectively neutralizes carbonic acid and other acidic species within the condensate phase, helping maintain the condensate pH within the recommended alkaline range. By establishing a protective alkaline environment throughout the steam and condensate network, the product significantly reduces corrosion rates, minimizes iron transport, and prevents the accumulation of corrosion by-products in the boiler and condensate return system.

The continuous application of SC-BW-603 improves the overall integrity and operational efficiency of steam generation systems by protecting steam lines, condensate piping, feedwater systems, heat transfer equipment, and condensate recovery units. The product is suitable for use in industrial, marine, commercial, and utility boiler systems where effective condensate corrosion control is essential for maintaining system reliability, reducing downtime, and extending equipment service life.

Regular monitoring of condensate pH and iron levels is recommended to ensure optimum performance. For effective control, condensate pH should be maintained between 8.3 and 9.2, using a pH Test Kit or pH Meter, while system corrosion can be monitored through an Iron Test Kit and established corrosion monitoring programs.

## APPLICATION

Designed specifically for industrial, marine, utility, and commercial boiler systems, this product ensures optimal performance and longevity. It is recommended to continuously dose the solution into various components such as boiler feedwater tanks, deaerators, feedwater lines, or specific dosing points. This practice effectively safeguards the entire condensate system against issues like corrosion and scale buildup, thereby maintaining system efficiency and reliability over time. Regular dosing helps to prevent costly downtimes and extends the lifespan of boiler equipment, ensuring smooth operation in demanding environments.

## DOSAGE

Typical dosage is 5–50 ppm depending on boiler pressure, condensate return rate, feedwater quality, and operating conditions. Adjust dosage based on condensate pH and iron monitoring results.

## TYPICAL PROPERTIES

| Property | Specification |
|---|---|
| Appearance | Clear Colorless to Pale Yellow Liquid |
| Odor | Characteristic Amine Odor |
| pH (1% Solution) | 10.5 - 12.0 |
| Specific Gravity @25°C | 0.95 - 1.00 |
| Solubility | Completely Miscible in Water |

## TARGET CONTROL LIMITS & TEST METHODS

| Parameter | Control Limit | Test Method |
|---|---|---|
| Condensate pH | 8.3–9.2 | pH Meter / Colorimetric Test |
| Iron (Fe) | <1.0 ppm Preferred | Iron Test Procedure |
| Conductivity | System Specific | Conductivity Meter |
| Corrosion Rate | As Site Requirement | Corrosion Coupon Monitoring |

## HANDLING & STORAGE

- Handle in accordance with good industrial hygiene practices.
- Avoid unnecessary contact with skin and eyes.
- Wear suitable gloves and eye protection during handling.
- Store in original tightly closed containers.
- Protect from direct sunlight and freezing temperatures.
- Store in a cool, dry, and well-ventilated area.

Recommended Storage Temperature

5°C – 40°C

Shelf Life

24 Months under recommended storage conditions.

## PACKAGING

Available in:

- 25 L HDPE Drum
- 200 L HDPE Drum
- 1000 L IBC Tank

Other packaging sizes are available upon request.

## IMPORTANT NOTE

The information herein is intended for industrial and professional users.
Users should verify product suitability under actual operating conditions and follow all applicable regulations, equipment manufacturer recommendations, and industry best practices.