



STEAM BOILER SCALE AND CORROSION INHIBITOR

WATCH LIQUID SOFTENER

(Concentrate)

Watch Liquid Softener (Concentrate) is an aqueous phosphonate treatment designed for scale control and corrosion-management programmes in steam boilers. It is intended for metered addition to boiler fill water and subsequent makeup water.

01 SCALE INHIBITION

02 METAL-ION
SEQUESTRATION

03 CORROSION MANAGEMENT

WATCH LIQUID SOFTENER (CONCENTRATE)

PRODUCT AND TREATMENT FUNCTION

PRODUCT DESCRIPTION

The formulation uses partially neutralised aminophosphonate chemistry with a nominal concentrate pH of 2.5. Its primary function is to inhibit mineral-scale formation and support deposit control on boiler heat-transfer surfaces.



TREATMENT FUNCTIONS

01

Scale inhibition.

Phosphonate chemistry interferes with mineral crystallisation, helping limit the formation of adherent calcium-based scale.

02

Metal-ion sequestration.

Complexing action supports the management of dissolved metal ions. Performance depends on water chemistry and treatment concentration.

03

Corrosion management.

Deposit control supports the overall corrosion-control programme. Dissolved oxygen, boiler-water pH and condensate protection must be managed separately where required.

PRODUCT CHARACTERISTICS

PARAMETER	DESCRIPTION
Product form	Aqueous liquid concentrate
Chemical type	Partially neutralised aminophosphonate
Concentrate pH	2.5 nominal - formulation target
Solubility	Water soluble
Application method	Metered addition to fill and makeup water

Concentrate pH is not the operating pH of the treated boiler water. Finished-product active content and density are not specified in this edition.

WATCH LIQUID SOFTENER (CONCENTRATE)

APPLICATION AND DOSING



APPLICATION SCOPE

For steam locomotives, heritage steam equipment and stationary steam boilers within an agreed treatment programme. Select the treatment against feedwater hardness, alkalinity, operating pressure and temperature, metallurgy and blowdown practice. A universal pressure or temperature rating is not assigned in this edition.

RECOMMENDED DOSING

The following values are recommended starting doses. Match them to the final concentrate strength and application conditions before use.



INITIAL BOILER FILLING

312.5 mL per m³

(0.313 L per 1,000 L)

US equivalent

4 US fl oz per 100 US gallons

ONGOING MAKEUP WATER

31.25 mL per m³

(0.0313 L per 1,000 L)

US equivalent

4 US fl oz per 1,000 US gallons

CALCULATION

$$\text{Product volume (mL)} = \text{water volume (m}^3\text{)} \times \text{selected dose (mL/m}^3\text{)}$$

Base the initial addition on actual water content, and ongoing addition on measured makeup-water volume.

DOSING AND OPERATING CONTROL

Introduce the product at an approved feedwater addition point with adequate mixing. Use dosing equipment compatible with the concentrate. Adjust treatment to water analysis, boiler concentration and operating results; maintain the boiler manufacturer's pH, alkalinity, conductivity and blowdown requirements.

PLEASE NOTE

"Liquid softener" describes chemical scale control: the treatment does not physically remove calcium and magnesium from the water. Existing heavy deposits require assessment before any cleaning programme. This product is not specified as an oxygen scavenger or a condensate-line treatment.



SUITABLE FOR

/ Steam locomotives

/ Heritage steam equipment

/ Stationary steam boilers

TREATMENT PROGRAMME IN THREE STEPS

01 Analyse

Select the treatment against feedwater hardness, alkalinity, operating pressure and temperature, metallurgy and blowdown practice.

02 Dose

312.5 mL per m³ at initial boiler filling, then 31.25 mL per m³ of makeup water, at an approved feedwater addition point.

03 Monitor and adjust

Adjust to water analysis and operating results; maintain the boiler manufacturer's pH, alkalinity, conductivity and blowdown requirements.

HANDLING AND STORAGE

Store tightly closed in the original labelled container, protected from freezing and excessive heat. Avoid eye and skin contact; use protective gloves and eye protection. Consult the current Watch Water Safety Data Sheet for handling, transport and disposal. Pack sizes and shelf life must follow the released product specification.

- PROTECTIVE GLOVES
- EYE PROTECTION
- PROTECT FROM FROST
- KEEP TIGHTLY CLOSED

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