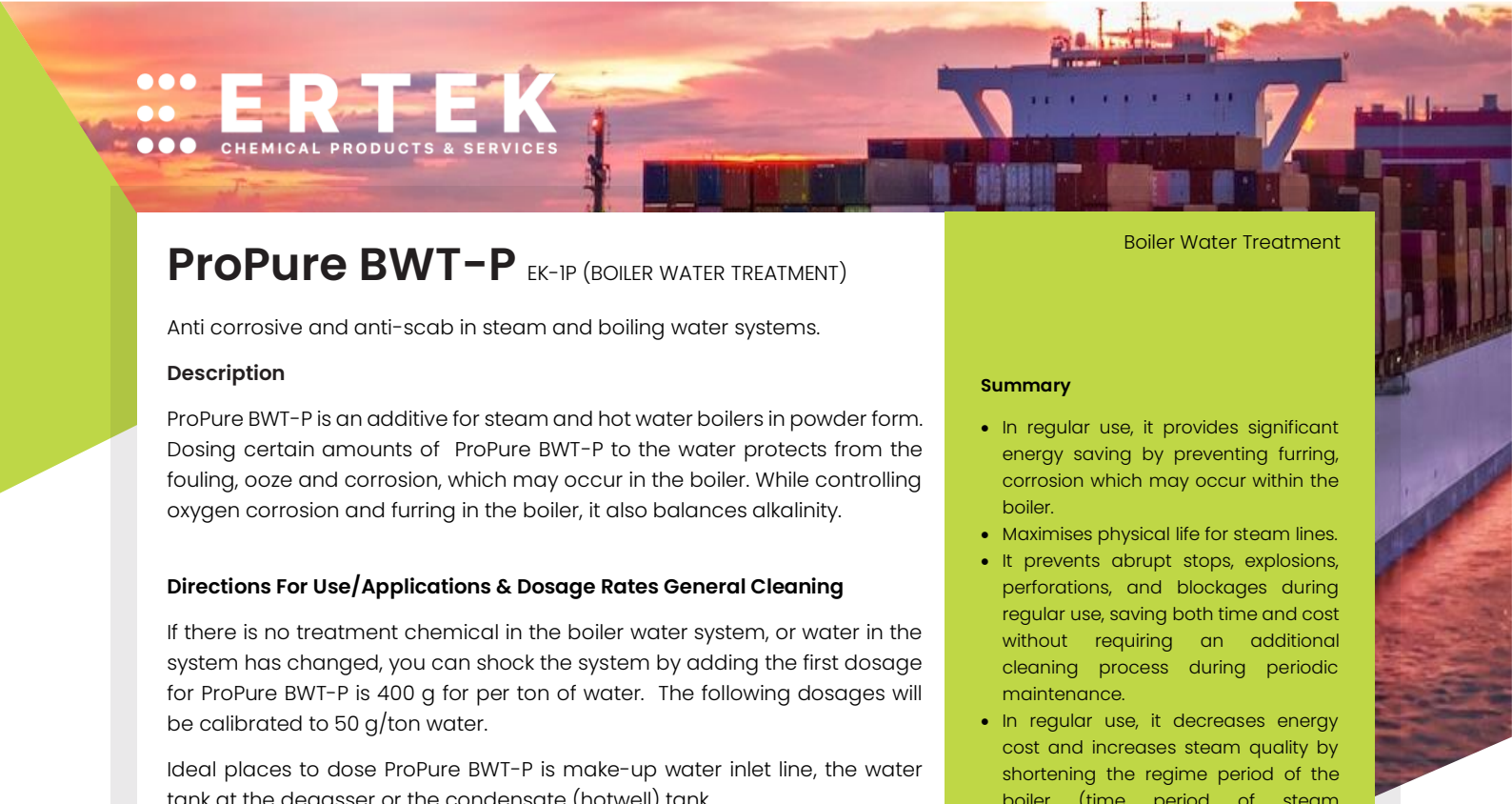

ERTEK
CHEMICAL PRODUCTS & SERVICES

Boiler Water Treatment

ProPure BWT-P EK-1P (BOILER WATER TREATMENT)

Anti corrosive and anti-scab in steam and boiling water systems.

Description

ProPure BWT-P is an additive for steam and hot water boilers in powder form. Dosing certain amounts of ProPure BWT-P to the water protects from the fouling, ooze and corrosion, which may occur in the boiler. While controlling oxygen corrosion and furring in the boiler, it also balances alkalinity.

Directions For Use/Applications & Dosage Rates General Cleaning

If there is no treatment chemical in the boiler water system, or water in the system has changed, you can shock the system by adding the first dosage for ProPure BWT-P is 400 g for per ton of water. The following dosages will be calibrated to 50 g/ton water.

Ideal places to dose ProPure BWT-P is make-up water inlet line, the water tank at the degasser or the condensate (hotwell) tank.

It is our recommendation to do the dosing process with a dosing pump for the continuity of the application.

Since the product is in powder form, if it is diluted by 1/10, the amount of use should be increased 10 times.

Since the product is in powder form, it is recommended to dissolve it in pure water before usage.

Test Method

PHOSPHATE TEST: It is performed in order to test the presence and sufficiency of the ProPure BWT-P in the boiler. It controls the hardness, ooze in other words furring. 20-40 ppm phosphate is sufficient to protect the boiler. In the presence of high phosphate the system has to be partially bluffed until the ideal phosphate amount and the dosage should be increased in the presence of low phosphate. 50 g ProPure BWT-P dosage to one ton of boiler water increases 3.5 ppm phosphate. If the concentration of the boiler is 6, this reflects to the boiler as 20 ppm.

For 0-30 atm boiler pressure 20-40 ppm phosphate is sufficient.

SULFIDE TEST: Since ProPure BWT-P is catalyzed sulfide based, it is recommended to be used for the boilers up to 30 atm.

For 0-10 atm boilers 50-60 ppm,

For 10-20 atm boilers 40-50 ppm,

For 20-30 atm boilers 30-40 ppm of sulfide presence provides sufficient protection.

Summary

- In regular use, it provides significant energy saving by preventing furring, corrosion which may occur within the boiler.
- Maximises physical life for steam lines.
- It prevents abrupt stops, explosions, perforations, and blockages during regular use, saving both time and cost without requiring an additional cleaning process during periodic maintenance.
- In regular use, it decreases energy cost and increases steam quality by shortening the regime period of the boiler (time period of steam production).

A) Organic Properties

Apperance

Physical State (20°C):	Powder
Color	: White granules
Odor	: Slight odorous

B) Physical Properties

pH (1%)	: 9.0 – 11.0
Molecular weight	: -
Explosion Limit	: None
Flash point	: None
Relative Density	: 1.10 – 1.20 g/cm^3
Solubility in water.	: Completely soluble

Storage Conditions

Packed in original plastic buckets of 25 Kg. Storage period is 3 years.

Approvals & Certificates

IMO ISO 14001 ISO 9001

Product No : SP-KS-010

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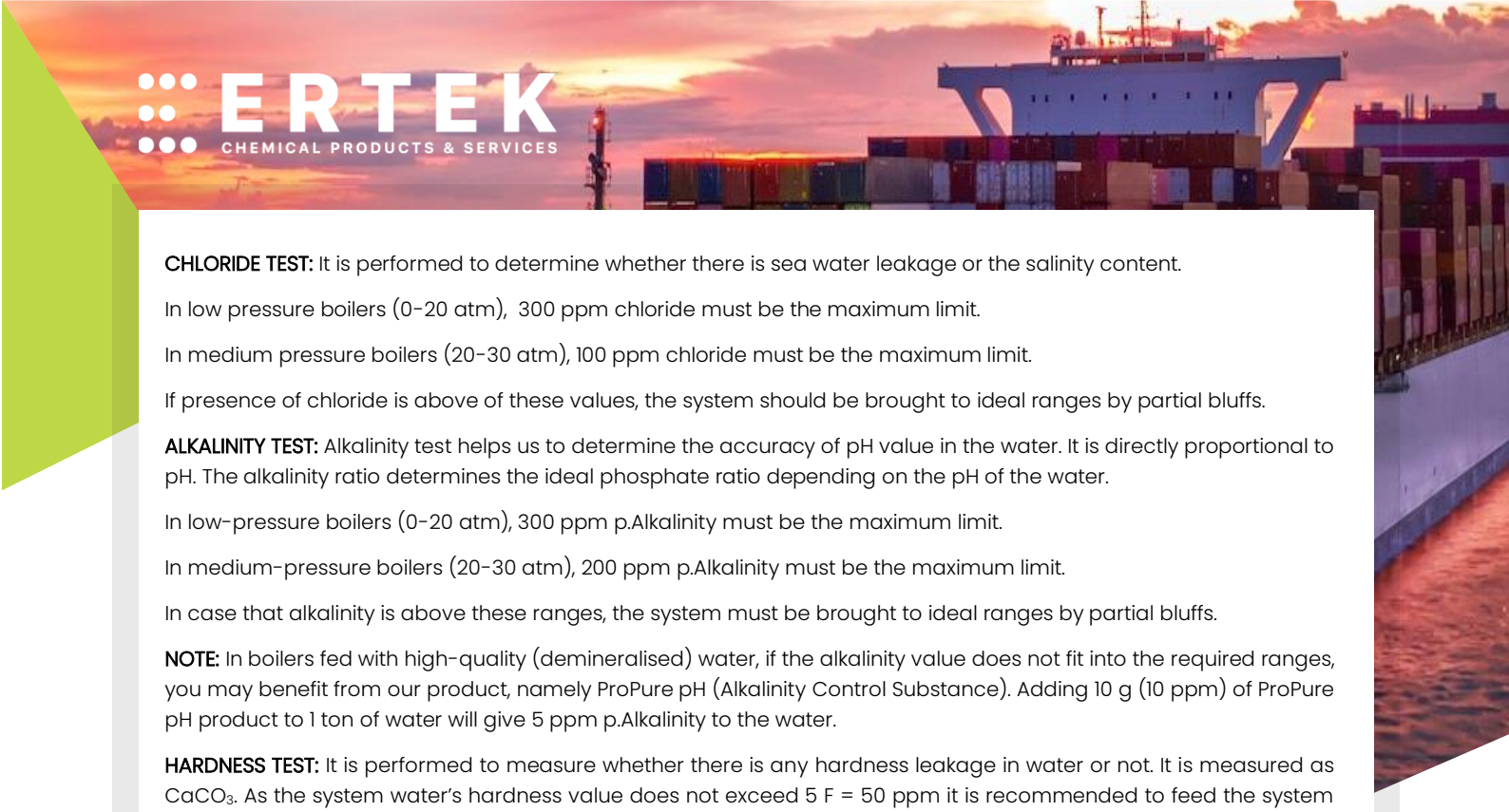

CHLORIDE TEST: It is performed to determine whether there is sea water leakage or the salinity content.

In low pressure boilers (0-20 atm), 300 ppm chloride must be the maximum limit.

In medium pressure boilers (20-30 atm), 100 ppm chloride must be the maximum limit.

If presence of chloride is above of these values, the system should be brought to ideal ranges by partial bluffs.

ALKALINITY TEST: Alkalinity test helps us to determine the accuracy of pH value in the water. It is directly proportional to pH. The alkalinity ratio determines the ideal phosphate ratio depending on the pH of the water.

In low-pressure boilers (0-20 atm), 300 ppm p.Alkalinity must be the maximum limit.

In medium-pressure boilers (20-30 atm), 200 ppm p.Alkalinity must be the maximum limit.

In case that alkalinity is above these ranges, the system must be brought to ideal ranges by partial bluffs.

NOTE: In boilers fed with high-quality (demineralised) water, if the alkalinity value does not fit into the required ranges, you may benefit from our product, namely ProPure pH (Alkalinity Control Substance). Adding 10 g (10 ppm) of ProPure pH product to 1 ton of water will give 5 ppm p.Alkalinity to the water.

HARDNESS TEST: It is performed to measure whether there is any hardness leakage in water or not. It is measured as $CaCO_3$. As the system water's hardness value does not exceed 5 F = 50 ppm it is recommended to feed the system with demineralised water or discharging water. If the hardness of feed water is high 30-40 ppm phosphate must be present in the boiler.

pH: It is the indicator of the acidity and alkalinity of the water. The ideal pH range in the boiler water is 9.0-11.5. As the boiler pressure decreases (0-20 atm) the ideal range for the pH is approximately 11.5 and as the boiler pressure increases (40-100 atm) the ideal range for the pH is approximately 9.0.

NOTE: In generator water, if the generator is stopped from time to time; before it is started again, some water should be discarded with a bottom blowdown. Water should be added as much as the discarded water, and chemicals should be added. Since generator systems are sensitive systems that produce steam quickly with a small amount of water, the solids that settle to the bottom with this blowdown will be disposed of without sticking and scorching with heat.

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