

DESCRIPTION

EK-1P is an additive for the Steam Boilers and Hot Water Boilers. Dosing certain amounts EK-1P to the water provides protection against furring, ooze and corrosion which may occur in the boiler. It is a complete product. While controlling Oxygen Corrosion, Furring in the boiler, it balances Alkalinity as well.

Chemical Name : Water conditioning (Chemical Mixture)
Document No : SP-KS-010
Trade Name : **EK-1P (BOILER WATER TREATMENT)**
Usage : Anti corrosive and anti-scab in steam and boiling water systems.

A. ORGANIC PROPERTIES

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

B. PHYSICAL PROPERTIES

pH (5%) : 9.0 – 11.0
Molecular weight : -
Explosion Limit : None
Flash point : None
Relative Density : 1.10 – 1.20 g/cm³
Solubility : Completely soluble in water.

APPLICATION, FEATURES & BENEFITS

- ✓ In regular use, it provides significant energy saving by preventing furring, corrosion which may occur within the boiler.
- ✓ In regular use, ensures maximum physical life for steam lines.
- ✓ In regular use, it prevents abrupt stops, explosion, perforation, blocking and provides both time and money saving without requirement of extra cleaning process in periodical 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).

STORAGE INFORMATION

Packed in original plastic buckets of 25-30 Kg. Storage period is 3 years.

DIRECTIONS FOR USE/APPLICATIONS & DOSAGE RATES

If there is no treatment chemical in boiler water system, first dosage for EK-1 P is 400 g/ ton water. The following dosages will be calibrated to 50 g/ton water. Ideal places to dosage EK-1 P is make up water inlet line, water tank at the degasser or condensate (hotwell) tank.

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 EK-1P 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 EK-1P 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 EK-1P 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.

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 with pH. 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 (demineralize) water, If the alkalinity value does not fit into the required ranges you may benefit from our product namely ERAY (Alkalinity Control Substance). Adding 10 g (10 ppm) of ERAY product to 1 ton of water will give 5 ppm p.Alkalinity to the water.

HARDNESS TEST: It is performed to measure whether there's 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 demineralized 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.