

ZI-CHEM 1740

Steam Boiler Corrosion & Scale Control

HIGHLIGHTS

ZI-CHEM 1740 is an all-organic product based on Cetamine Filming Amines (CFA) and neutralizing Amines to prevent corrosion in steam boilers by formation of a protective film on metal surfaces. Due to its distribution ratio between gas and liquid phase, it also protects steam and condensate lines.

The corrosion inhibition of ZI-CHEM 1740 is based on the following mechanisms:

1. Formation of a protective film by adsorption of the filming amine (CFA) on the surface by its nitrogen atoms.
2. Neutralization of carbon dioxide in steam and condensate.
3. PH adjustment of the feedwater and condensate in order to maintain carbon steel and copper in their passive state according to Pourbaix's program

The stabilizing and dispersing effect of ZI-CHEM 1740 prevents the formation of scale by blocking crystal growth (Threshold effect). Beyond the stabilization limit, an amorphous precipitate is obtained which can be dispersed and does not form an adherent scale. It can be removed from the boiler by normal bottom blow-down.

TYPICAL PROPERTIES

- Appearance: Yellowish liquid
- Specific gravity: $1.01 \pm 0.03 \text{ g/cm}^3$
- pH (1% sol): $11.8 \pm 0.3^\circ\text{C}$
- Odor: Amine like
- Freeze point: $-1 \pm 1^\circ\text{C}$

PRIMARY APPLICATIONS

ZI-CHEM 1740 should be added into the feedtank or the feedwater pipe (should not be added into the feedwater that is used for temperature adjustment purposes).

The product should be injected by means of an automatic dosing system regulated by the volume of make-up water.

ZI-CHEM 1740 should be dosed pure, without dilution in a dosing tank.

FEEDING & CONTROL

All parts of the feeding equipment coming in contact with the product must be made of PVC (suction tubing), teflon (membranes), EPDM or teflon (seals) and Polyethylene (discharging tubing). The product is not compatible with Viton.

The dosage will depend on the operating conditions and the chemistry of the water being treated. Your ZI-TECHASIA technical field specialist will recommend the most appropriate dosage for your particular application on an ongoing basis.

THE BENEFITS

- Reduced total fuel cost
- Increased steam production
- No off-line cleaning required
- Extended equipment life
- Suitable for high pressure boiler up to 1,200 psig

COMMON APPLICATIONS

- Automotive industries
- Power generation facilities
- Petrochemical
- Pulp & Paper processing
- Timber processing

PACKAGING

- 25kg pails
- 200kg drums
- 1,000kg IBC containers

HANDLING & SAFETY

ZI-TECHASIA maintains a database of material safety data sheets (MSDS) on all our products. These contain health & safety information to assist in the safe and appropriate chemical handling, ensuring the protection of personnel.

