

## PREVENT CORROSION IN THE BOILER AS WELL AS IN THE STEAM CONDENSATE SIDE OF LOW PRESSURE, LOW MAKEUP STEAM HEATING BOILERS.

- Complete one product treatment for the prevention of sludge, oxygen pitting, corrosion and condensate corrosion.
- No special mixing or tanks required; can be used straight from the drum.
- Built-in color indicator provides for easy on-going, visual determination of the product treatment level in system, without chemical testing.
- Easy to use colormetric test is available if desired. Assures exact dosage for economical use.

### Description

Ty-on B14A is a one product boiler treatment that controls boiler scale and corrosion and condensate line corrosion in low pressure steam heating boilers where most of the condensate is returned. Ty-Ion B14A is chromate-free and it contains a color indicator for visual determination of treatment residual. It's balanced formulation provides an energy efficient operation of the heating plant.

### Application

Ty-Ion B14A is formulated as a simple easy-to-use "single-drum" boiler product. It was developed specifically for low pressure steam boilers having low makeup and a very high percent of condensate return. Such boilers are usually used for heating and are found in schools, small hospitals, nursing homes and other commercial or industrial locations.

### Packaging

5 gallon pail 7519-05

### Closed Systems

## Ty-Ion B14A



### Directions for Use

For proper treatment, it is necessary to initially charge the boiler with one gallon of Ty-Ion B14A for every 250 gallons of water in the system. However, to avoid the potential for surging when filling the boiler, add 1/2 gallon (in the case of cast iron boilers, use 1/4 gallon) for each 250 gallons of water. If the capacity is unknown, refer to the BTU/Capacity chart below for an estimation or calculate the volume of water. Allow boiler to operate two weeks to one month before adding balance of the product. Use W003-0 Nitrite Test Kit and test the nitrite ( $\text{NaNO}_2$ ) level in the boiler water to determine the amount of product that is present. Gradually add enough product to bring the ppm(mg/L) of nitrite in the boiler to 1000. At this point, the color of the system water in the sight glass should match the color standard of the B14A Comparator available from Nu-Calgon Wholesaler, Inc. Please note that additions of the product to reach 1000 ppm should be done over a period of several weeks to avoid possible surging.

## Method of Feeding

Ty-Ion B14A may be introduced into the boiler system through a No. 20L Feeder installed in the feed water line, directly into the feed water tank, or with a chemical feed pump.

## Blowdown

Normally a 2 to 3 second blowdown once a day is sufficient to remove the sludge accumulation in low pressure heating boilers. The best time to do this is when the boiler is on low fire such as in the middle of the afternoon or when the boiler has been modulating for 15-30 minutes. This gives the sludge time to settle in the bottom of the boiler so it can be blown out. It is also essential to blow down the McDonnell-Miller control daily when the boiler is on high fire. This is to make certain that the low level cutoff is operating properly and rid the float chamber of any sludge.

## Boiler Surging

If boiler should surge, bottom blowdown the boiler until surging subsides.

## Boiler Lay-Up or Storage

When a boiler is to be laid up for storage for a prolonged period of time (over 3 weeks), it is recommended that it be done in a dry state to avoid oxygen corrosion. For less than 3 weeks, it can be done "wet" with treatment. After thoroughly flushing and inspecting the water side, add 2 to 3 gallons of Ty-Ion B14A per 250 gallons of boiler water capacity to the boiler. Add the product through the top hand hole of a fire tube boiler and through the safety valve for a water tube boiler. Fill the boiler to the normal operating level and steam the boiler for approximately 15 minutes with the hand holes or safety valve open. Shut the boiler down and fill the boiler to the top. Shut hand hole or safety valve and the boiler should be ready for stand-by.

Read and understand the product's label and Material Safety Data Sheet ("MSDS") for precautionary and first aid information.

The MSDS is available on the Nu-Calgon website at [www.nucalgon.com](http://www.nucalgon.com) or is returnable by U.S. Mail upon request.

## ESTIMATING THE NUMBER OF GALLONS OF TY-ION B14A NEEDED FOR STEAM HEATING BOILERS

FROM BOILER PLATE BTU PER HR- OUTPUT	HORSEPOWER OF BOILER	GALLONS OF WATER TO BE TREATED IN BOILER*	INITIAL AMOUNT OF B14A TO BE PUT INTO BOILER*	AMOUNT OF TY-ION B14A TO PUT INTO BOILER*	ESTIMATED ANNUAL AMOUNT OF TY-ION B14A FOR BOILER
585,000 to 753,000	20	225	2 Quarts	1 Gallon	5 Gallons
753,000 to 920,000	25	265	2 Quarts	1 Gallon, 1 Pint	5 Gallons, 5 Pints
920,000 to 1,088,000	30	280	2 Quarts	1 Gallon, 1 Pint	5 Gallons, 5 Pints
1,088,000 to 1,255,000	35	350	3 Quarts	1 Gallon, 3 Pints	6 Gallons, 7 Pints
1,255,000 to 1,506,000	40	385	3 Quarts	1 Gallon, 2 Quarts	7 Gallons, 2 Quarts
1,506,000 to 1,841,000	50	410	1 Gallon	1 Gallon, 5 Pints	8 Gallons, 1 Pint
1,841,000 to 2,175,000	60	500	1 Gallon	2 Gallons	10 Gallons
2,175,000 to 2,510,000	70	510	1 Gallon	2 Gallons	10 Gallons
2,510,000 to 3,012,000	80	535	1 Gallon	2 Gallons, 1 Pint	10 Gallons, 5 Pints
3,012,000 to 3,765,000	100	630	1.25 Gallons	2 Gallons, 2 Quarts	12 Gallons, 2 Quarts
3,765,000 to 4,602,000	125	800	1.50 Gallons	3 Gallons, 1 Quart	16 Gallons, 1 Quart
4,602,000 to 5,857,000	150	815	1.50 Gallons	3 Gallons, 1 Quart	16 Gallons, 1 Quart
5,857,000 to 7,531,000	200	1135	2.25 Gallons	4 Gallons, 2 Quarts	22 Gallons, 2 Quarts
7,531,000 to 9,205,000	250	1415	2.75 Gallons	5 Gallons, 5 Pints	28 Gallons, 1 Pint
9,205,000 to 10,878,000	300	2015	4 Gallons	8 Gallons	40 Gallons
10,878,000 to 12,551,000	350	2240	4.50 Gallons	9 Gallons	45 Gallons
12,551,000 to 15,062,000	400	2570	5 Gallons	10 Gallons, 1 Quart	51 Gallons, 1 Quart
15,062,000 to 18,409,000	500	3050	6 Gallons	12 Gallons, 1 Quart	61 Gallons, 1 Quart

NOTE: If only E.D.R. sq. ft. are shown, divide by 233 to get the horsepower

\*In cast iron boilers, the volume of water in the boiler will be smaller than is listed here by BTU's or HP. Therefore, one should use 1/2 as much B14A.

