

## PROTECT CLOSED, CHILLED OR HOT WATER SYSTEMS AGAINST CORROSION IN COMMERCIAL OR RESIDENTIAL APPLICATIONS.

- Inhibits corrosion and helps prevent corrosion deposits in multi-metal systems.
- Chromate-free for longer life of mechanical seals and easier disposal.
- Effective at both high and low operating temperatures.
- Helps disperse suspended solids with a unique copolymer dispersant.
- Contains a novel color indicator that is pH sensitive, facilitating leak detection and treatment level.
- Compatible with most uninhibited glycols.

### Description

Ty-Ion B20 is a liquid nitrite-borax corrosion inhibitor and dispersant for closed recirculating systems. It combines corrosion inhibitors, including a copper corrosion inhibitor, a unique copolymer dispersant, and a color indicator into a complete treatment for both hot and chilled water closed systems containing ferrous and nonferrous metal components. The color indicator facilitates leak detection and proper treatment residuals.

### Application

Ty-Ion B20 controls corrosion by producing a protective passivating film on all exposed metal surfaces through a synergistic combination of sodium nitrite and borax, plus organic inhibitors. In addition, its copolymer dispersant inhibits deposit formation through its dispersing capability.

The unique color indicator in Ty-Ion B20 is extremely useful in locating any existing leaks in closed systems, to quickly determine if the systems are properly treated and also to determine if the pH has dropped in the system because of bacterial infestation.

### Packaging

5 gallon pail 7537-05

### Closed Systems

## Ty-Ion B20



### Directions for Use

For best results, it is recommended that both chilled water systems and hot water heating systems be charged with one gallon of Ty-Ion B20 per 100 gallons of system water, or 1000 ppm (mg/L) as nitrite. Additional product should be considered for closed hot water systems as they can be more prone to corrosive attack. As much as 1 gallon per 75 gallons water of Ty-Ion B20 should be considered, particularly where the temperature exceeds 185°F. Periodically, at least once per month, the treatment residual should be checked; the residual should always be at least 1000 ppm (mg/L) as nitrite (NaNO<sub>2</sub>), and up to 1500 ppm (mg/L) in hot water systems where more B20 is required. Proceed as follows:

1. Drain and flush the system to remove all suspended matter, treatment, etc. If it is a new system, or even in an existing system, it is preferable to pre-clean the system with System Cleaner (Part Number 4370-08). System Cleaner is a heavy industrial cleaner specifically formulated to clean equipment surfaces fouled by cutting oils, grease, lubricants, corrosion products and other debris. Use 1 gallon of product for every 75 gallons of system water. Circulate cleaning solution for approximately 8 hours then flush system continually until flush water runs clear.

2. If the system is not new and has never been treated, corrosion has undoubtedly taken place and resulting corrosion products should be cleaned. This can be done with Ty-Ion B20 or System Cleaner. If Ty-Ion B20 is used, charge system with 2-3 gallons of Ty-Ion B20 for every 100 gallons of system water and circulate for several weeks. This additional B20 will emulsify and dissolve those deposits. At that time, the system can be drained, flushed and charged with 1 gallon of B20 for every 100 gallons of water.
3. Access the system and add the required amount of Ty-Ion B20. If necessary, install a 20L Feeder (Part Number 4628-0) to introduce the chemical into the system.
4. Nitrite levels should be kept at a minimum of 1000 ppm in chilled water systems and at a minimum of 1500 ppm in hot water boiler systems. Concentrations of Ty-Ion B20 can be monitored by utilizing the Nitrite

Drop Test that Nu-Calgon provides in the following test kits:

- Nitrite Test Kit (Part Number 4797-0)
- No. 89A Test Kit (Part Number 4798-2)
- Complete Test Kit (Part Number W017-0)

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).

#### ESTIMATING THE NUMBER OF GALLONS OF TY-ION B20 NEEDED TO CHARGE HOT WATER BOILERS\*\*

Boiler Capacity		Est. gals. of system water to treat	Est. amount of Ty-Ion B20 to protect the system	Boiler Capacity		Est. gals. of system water to treat	Est. amount of Ty-Ion B20 to protect the system
BTU per/hr output (000)	Boiler H.P.			BTU per/hr output (000)	Boiler H.P.		
585 to 753	20	570	6 gals.	3012 to 3765	100	1670	17 gals.
753 to 920	25	700	7 gals.	3765 to 4602	125	2080	21 gals.
920 to 1088	30	710	8 gals.	4602 to 5857	150	2110	22 gals.
1088 to 1255	35	830	9 gals.	5857 to 7531	200	2900	29 gals.
1255 to 1506	40	970	10 gals.	7531 to 9205	250	3600	36 gals.
1506 to 1841	50	1060	11 gals.	9205 to 10878	300	5000	50 gals.
1841 to 2175	60	1280	13 gals.	10878 to 12551	350	5600	56 gals.
2175 to 2510	70	1290	13 gals.	12551 to 15062	400	6200	62 gals.
2510 to 3012	80	1480	15 gals.	15062 to 18409	500	7700	77 gals.

NOTE: If only E.D.R. square feet are shown divide by 233 to get the horsepower.

\*\*For chilled water systems, estimate the systems water volume at 32 times the tonnage.

This is an approximation; testing will allow one to confirm.

