



Simple, Eco-Friendly
Chemical Water Treatment

BOILERMATE®



READ MATERIAL SAFETY DATA SHEET
BEFORE USING PRODUCT

BOILERMATE® 1200S

Boiler Water Treatment. A water-side treatment used to prevent corrosion in Steam Boiler Systems. A minimum of chemical is used to achieve the desired effect.

CORROSIVE MATERIAL

Avoid contact with eyes and skin. Wear rubber gloves and chemical splash goggles. Keep out of reach of children.

EYES: Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

SKIN: Immediately flush with cool water for 15 minutes while removing contaminated clothing and shoes. Shower or wash well before reuse. Obtain medical attention if irritation persists.

INHALATION: If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

INGESTION: Do not induce vomiting. Rinse mouth with water; then drink one or two glasses of water. Obtain medical attention. Have someone call for medical help if victim is unconscious, or is choking.

Health	2.2
Environment	2
Physical Hazard	2.1
Reactivity	2



CORROSIVE LIQUIDS, N.O.S.
(POTASSIUM HYDROXIDE) UN1789

INGREDIENTS:

POTASSIUM HYDROXIDE

SODIUM SILICATE

ETHYLENEDIAMINETETRAACETATE, TETRASODIUM

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FOR INDUSTRIAL AND FOOD PLANT USE ONLY. USE AS DIRECTED BY A RESPONSIBLE COMPANY REPRESENTATIVE

LOT No. _____

NET WT 200 kg

SCAN FOR MORE



BOILERMATE® INFO

LEADERS IN WATER TREATMENT

Founded in 1927, Miura has grown to become the largest industrial boiler manufacturer in the world by having efficiency, reliability, and safety at the forefront of our design philosophy and manufacturing principles. As part of Miura's commitment to reliable steam production, our water treatment experts started developing solutions in the 1960s to accompany the evolving standard and quality of its boilers.

After extensive research and testing from hundreds of thousands of water samples, Miura developed the ideal water treatment for the unique Miura boiler design, including water softeners, chemical treatment, and water analysis. This became the foundation for today's Total Steam Solution, aimed at maximizing the efficiency and reliability of the Miura system.

One result of the water treatment research was the development of the BOILERMATE® series chemical treatment products in 1971. In 2002, after continued research and product evolution, Miura developed our flagship product, BOILERMATE®1200S silica-based boiler treatment. It uses the naturally occurring ingredient, silicate, as a protective agent against corrosion within the boiler. Miura also produces a full lineup beyond BOILERMATE®1200S to cover a range of our customers' water treatment needs.



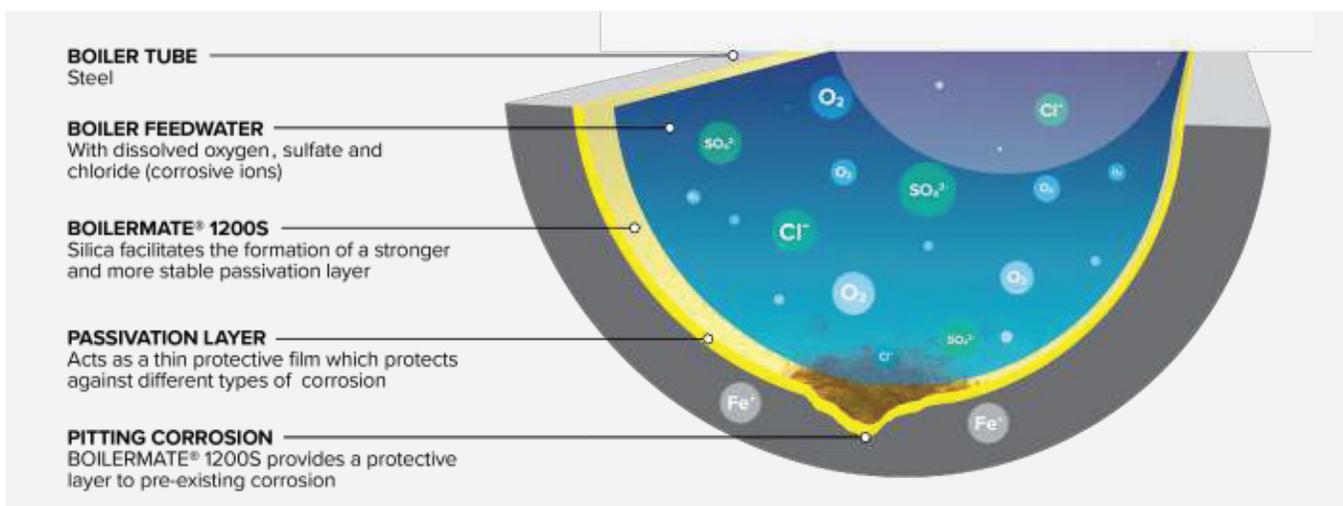
50+ Years of BOILERMATE® History

EXPERT DESIGN, CONTINUOUS PROTECTION

There is little room for error when protecting a boiler from corrosion. That's why BOILERMATE®1200S, a unique all-in-one silica-based chemical, improves the water quality by adjusting the ion balance between corrosive ions and corrosion inhibitors without needing regular dosage adjustment or significant reaction time.

BOILERMATE®1200S creates a continuously protective layer of silica and passivation that, once formed on the tubes, protects the boiler from fluctuations in operation and water quality. With proper dosing and injection, it also protects areas of existing corrosion. Offering the simplicity of a single-drum program, it boosts the boiler water pH to further protect against corrosion and can handle the minute amount of hardness that typically leaks through softeners to prevent scale formation.

Designed to work exclusively with Miura's unique once-through modular boiler system, BOILERMATE®1200S preserves the reliability of the Miura boilers and the steam generation capability, making it an essential factor in Miura's Total Steam Solution. That is why when coupled with Miura's maintenance program, Miura guarantees the pressure vessel in the event of a water treatment-related rupture.



DESIGNED TO FIT EVERY NEED: *BY MIURA BOILER, FOR MIURA BOILERS*

With seven types of BOILERMATE® chemicals available, there is one to fit your boiler room's unique

1 BOILERMATE® 1200S

All-In-One Boiler Water Treatment

Complete boiler feed water solution designed to protect against corrosion and small amounts of hardness.



- **Corrosion Inhibitor:** Silica prevents corrosion by facilitating a passivation layer to protect tubes against chloride [Cl-], sulfate [SO₄²⁻], oxygen, and other corrosive ions.
- **pH Booster:** By raising the pH, it significantly reduces corrosion rates in the boiler.
- **Protection Flexibility:** Unlike oxygen scavengers, when dosed properly, it is capable of protecting the boiler in the event of boiler operation or water quality fluctuation.

2 BOILERMATE® 3200C

Neutralizing amine protects the condensate return line from corrosion.



- **Neutralizing Amine:** Morpholine and cyclohexylamine boost the pH of the condensate return water to protect against corrosion.
- **Boost pH:** Neutralizing Amines react with the CO₂ to prevent the creation of carbonic acid which would lower the pH into a corrosive range for condensate return.

3 BOILERMATE® 2100D

Scale Dispersant and Remover

Instead of soaking the scale to dissolve it, this chemical works by chelating the scale and slowly removing it.



- **No Shutdown Time:** It removes the scale without stopping boiler operation.
- **Chelating:** To prevent and remove scale, the chemical bonds with the hardness instead of hardness bonding with the tube walls.
- **Scale Monitor Temperature:** Along with the Miura boilers' scale monitor thermocouple, it monitors the presence and removal of scale from the boiler tubes during boiler operation.

4 BOILERMATE® 7100P

Supplemental pH Booster

Reduce corrosion with higher pH levels during low-load operations and wet layup preparation.



- **pH Booster:** pH boosting chemical raises the pH, which can inhibit general corrosion at higher levels. Keeping the pH high within the boiler is important for reducing corrosion rates.
- **Supplemental Chemical:** This chemical adds extra support to properly protect the boiler system. Use it during low operation load and wet layup preparation.

5 BOILERMATE® 3300C

Condensate Return Treatment

Neutralizing amine protects the condensate return line from corrosion.



- **Boost pH:** By neutralizing H₂CO₃, it suppresses the acidic components and prevents pH reduction.

6 BOILERMATE® 4100B

Corrosion Inhibitor

Neutralizing pH levels to limit corrosion.



- **Concentrated:** Scavenging type chemical
- **Sulfite:** Strong concentration of

7 BOILERMATE® 5100M

pH Booster

Moderate concentration of sulfites to neutralize pH



- **pH Booster:** By raising the pH, it significantly reduces corrosion rates in the boiler
- **Scale Dispersant:** Scavenging type with dispersant to prevent any scale formation

- All of the listed BOILERMATE® chemicals can be injected and controlled automatically with Miura's WP2, controlling chemical injection equipment (i.e. pumps) based on the boiler operation/load.
- All of the BOILERMATE® (except BM®3300C) are non-volatile, meaning that they will not travel with steam under normal boiler operation.
- BM®3300C (amine chemical) cannot be used with dairy (and dairy-related) production facilities.

BOILERMATE® SPECIFICATIONS

INCLUDED FEATURES	MIC	BMC	MMP	MMP+
Yearly Inspections – 2x per Year	✓	✓	✓	✓
Service Calls & Troubleshooting*		✓	✓	✓
Parts**	10% discount	10% discount	10% discount	10% discount
Special Rates on Labour & Travel	✓	✓	✓	✓
Water Testing – with Report	2x per Year	Monthly	2x per Year	Monthly
MOM Alarm Monitoring	✓	✓	✓	✓
MOM Monthly Report	✓	✓	✓	✓
Dedicated Service Tech		✓	✓	✓
Special Rates on After Hours Service		✓	✓	✓
Parts Guarantee**			✓	✓
PV Guarantee		✓		✓
Economizer Guarantee				✓
Borescope – 1x per Year (with report)***				✓
Softener**** – Service Calls & Troubleshooting*				✓
Softener Inspections**** – 2x per Year		✓		✓
Chemical Pump Inspections – 2x per Year		✓		✓
Chemical Pump – Service Calls & Troubleshooting*				✓
Colormetry Cartridge & Filter Guarantee				✓
CPI-M or WP2 Guarantee				✓
REQUIRED CONDITIONS	MIC	BMC	MMP	MMP+
Boilermate® Silica/Sulfite	✓	Required		Required
Digital MOM or Miura Connect	Required	Required	Required	Required
Colormetry		Required	Required	Required

* Regular Business Hours, ** Water Treatment Equipment Excluded, *** Report Available by Request, **** With Softener Option Only

WATER LAB SAMPLE PROGRAM

To further support Miura's Total Steam Solution, our inhouse water lab helps us provide the best water treatment solutions for our customers' needs. By taking samples from customers' boiler systems and analyzing them in our lab, in addition to in-field testing, Miura provides expert water treatment advice, monitors trends, and continues to develop and improve our water treatment products and services.



Learn More About Miura's
Water Treatment Programs

