



**BoilerSaver** by Steve Leatherman  
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## Terlyn LSB 8000 in Small Boiler Instructions

Terlyn LSB 8000 is the usual treatment used in scale model live steamers.

This instruction assumes there is some hardness in the water. If the water has high hardness, or you want more cleaning power, simply increase the dose amount.

If your boiler is larger or a municipal water supply has chlorine that is detracting from the effectiveness of the Terlyn treatment, chlorine can be removed from water simply by using a carbon block or granular charcoal filter. The proof is in the results you see when you open and inspect your boiler. Expect to see a light grey or cocoa colored film inside.

**Dosing** - Assuming the small scale engines have a boiler that holds 10 gallons of water in the boiler and 10 gallons in the tender:

- 1. When filling the boiler from empty, add 1 capful of LSB 8000 directly to the boiler while filling.** This would be about 1/2 ounce or 15 ml. Have the treatment in the water before firing-up.
- 2. When adding water to the tender tank, add 1 capful LSB 8000 when adding water, about every 2 to 4 hours of steaming time, through the day.**

Listen to the sound of the cylinder exhaust and whistle.

If it is sharp, the steam is dry, and you are doing fine.

If the sound starts to get 'mushy' or wet, there is some carryover, the steam is wet and the boiler needs a blowdown to get rid of concentrated salts, minerals and used-up treatment. This is absolutely normal and is a part of operating every boiler, from tabletop models to big utility size electric generating units.

This is the result of the Terlyn removing old deposits and the natural "cycling up" of dissolved salts and minerals in the water. Steam is fairly pure distilled water. The salts and minerals stay behind in the boiler.

It is expected to happen fairly quickly and often in the first days of treatment and cleaning.

It is not recommended to completely blow down to dryness, a boiler that is scaled internally. After a boiler has been thoroughly cleaned and conditioned, many operators do blow their boilers down to dryness, after shutting down the fire and allowing some cool-down.

With continued use of Terlyn every steam-up, your boiler will soon get past the stage of needing frequent blowdowns, and be whistle clean.

To monitor and know for yourself, your water supply and boiler water conditions, there are a variety of optional test kits. Common parameters are: Hardness, pH, Alkalinity, Chloride. Ask for details.

You can have a scientific and predictable method of predicting the need for blowdown before carryover actually occurs, a pocket sized Conductivity / Total Dissolved Solids instrument is available. Control TDS at 2,500 to start. As your boiler gets cleaner, work the TDS upward in steps to 5,000. Everyday users like excursion RR's and park trains, operate up to 7,000 TDS. This represents a significant savings in fuel, water and treatment. Your conditions may vary; Experiment and find out what works!

TERLYN LSB is the best and easiest to use product I have found in working with steam boilers. It does what the developer, Bill Bondie of Colorado, says it will do. It cleans old scale deposits out of boilers and helps preserve boiler metal. The Terlyn treatment will cause a general loosening of the old scale deposits. The rate of this loosening and cleaning is determined by the amount of Terlyn used. You will have to open the boiler and wash out the loosened debris after the first few days of steaming. Use the recommended dose when filling the boiler with water and when adding water. When steaming, do not blow down from the bottom unless the boiler needs it as described above. Do blow down to clean and prove the sight glass and try cocks. Keep the chemical in the boiler where it can work for you.

Why is it important to have a clean boiler? Everyone knows that scale kills heat transfer. The most important thing, in the long run, is that scale holds moisture from the air, along with corrosive pitting chemicals like chlorides, in perfect contact with the boiler metal. The rusting and pitting, due to dampness and corrosive salts, gets going under the deposits and in the crevices. With a quick look, the boiler appears clean, but it is still being pitted and destroyed under that scale. Terlyn takes it down to bare metal and forms a protective film called ferrous hydroxide that will protect the boiler if you help it along.

The results will be visible when you open and clean your boiler. If your boiler is not getting as clean as it should, use a little bit more treatment to do the job. Your water may be loaded with minerals.

Oil is permissible on the fire side to protect the metal, but not on the water side. If you have metalworking oils remaining, they can be chemically boiled out to prevent foaming and priming when steaming. Ask for details.

Do not use dirty motor oil, it contains acids and combustion products. These acids will corrode the boiler metal.

Do not let any debris, mud or water stand in crevices. A clean and dry boiler will last much longer and perform better.

Remember, you are not alone. There are over 10,000 hobby and commercial steam users of Terlyn products. Feel free to contact me for help and advice.