

HOUGHTON CHEMICAL CORPORATION

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Lithium Test & Kit Product Data Sheet

Quantitative Lithium Chloride Solution for System Size Determination

Lithium Chloride Test Kits can help prevent cost overruns in labor and materials by providing accurate data regarding HVAC system size. This is particularly important during the purchase of glycol based Heat Transfer Fluids.

For health and safety information for this product, contact Houghton for a Safety Data Sheet (SDS).

Lithium Test & Kit Typical Properties	
System Volumes up to ...	Kit to Order
5,000 gallons	LITHIUM TEST & KIT (1 BOTTLE), Part Number 501440
15,000 gallons	LITHIUM TEST & KIT (3 BOTTLES), Part Number 570192
30,000 gallons	LITHIUM TEST & KIT (5 BOTTLES), Part Number 570736

In many cases, hydronic system volume is either unknown, estimated incorrectly from engineering plans, or measured incorrectly in existing systems. This can result in the over dilution of premixed Heat Transfer Fluids or the inaccurate purchase of a concentrate for dilution on-site. Additionally, the test can help identify the proper quantity of cleaning solution necessary to prepare the system for the Heat Transfer Fluid.

The test works by adding a known quantity of Lithium to the system. Once added, the Lithium will circulate and disperse evenly throughout the HVAC system. Samples are drawn and tested to determine the Lithium concentration. The known amount of Lithium added to the system and the concentration of the Lithium in the sample is used to back-calculate the approximate system size. The test will help you deliver the commissioned or remediated HVAC system to your customer at or below the freeze point required.

Typical properties, not to be construed as specifications. As use conditions are not within its control, Houghton Chemical Corporation does not guarantee results from use of the information or products herein; and gives no warranty, express or implied.

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NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

PROCEDURES FOR SYSTEM SIZE ESTIMATION BY LITHIUM CHLORIDE SOLUTION METHOD

1. Check entire water system loop. Make sure that water is circulating through all piping systems. There must be no “dead legs,” isolated coils, heat exchangers, or piping to insure an accurate volume estimate.
2. Obtain a sample (blank) from the circulating system and mark the time of sampling (Bottle #0).
3. Add the prescribed amount of lithium solution to the system through an open tank or a by-pass feeder. Rinse the lithium solution bottle and add the rinse water to the system. Be sure all the lithium chloride solution is added to the system.
4. Allow the system to circulate for at least 2 hours.
5. After the initial 2 hour circulation, take a sample at 1-hour intervals for four hours and mark the time each sample was taken. These will be samples #1, #2, #3, & #4.
6. Submit all samples together with the Laboratory Submittal Form indicating system designation, amounts of lithium used, location, and “report to” information. For “System Size,” answer “DETERMINE,” and make sure you note under the Comments section that these samples are for System Size Determination by Lithium Chloride Concentration.