



## **Cooltreat AL Test Kit Instruction Manual**

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## General Description

NALFLEET™ Cooltreat AL™ is an organic liquid corrosion inhibitor with extended life for use in closed cooling water systems. This product offers protection for all commonly used materials in engine cooling water systems, including aluminium. Unlike other coolants; NALFLEET™ Cooltreat AL™ does not contain components subject to rapid depletion i.e. Nitrite and Silicate. Based on aliphatic acid technology NALFLEET™ Cooltreat AL™ is fully organic and biodegradable.

## Dosing Method

NALFLEET™ Cooltreat AL™ should be dosed to a suitable point in the system. If the expansion tank is used, adequate circulation must be assured.

## Sampling and Testing

The test kit provides the necessary equipment to carry out the control tests. Obtain a representative sample of the cooling water. Carry out the tests immediately and log the results. Use the dosage chart to adjust treatment to obtain the optimum level. It is important that testing is carried out at least once per week, to ensure levels of treatment are correct.

## Doseage and Control

Initial dosage for an untreated system is 60 litres of NALFLEET™ Cooltreat AL™/ton of untreated distilled water (6%). This will provide sufficient protection of the system for a period of two to five years under normal conditions.

Cooltreat AL (in %)	0	1	2	3	4	5	6
NALFLEET™ Cooltreat AL/1000 ltr	60	50	40	30	20	10	0

6% NALFLEET™ Cooltreat AL should also be dosed in all make up water added to the system to compensate for lost coolant. The engine manufacturers recommendations for water quality should always be complied with. Chloride levels should always be as low as possible. Most engine manufacturers recommend a maximum of 50ppm chlorides. It is recommended to use distilled water for the make-up. pH should be controlled between 7.0 and 9.0.

## Cooltreat Test Method

1. Rinse the shaker tube with clean water before use.
2. Fill the 1ml syringe to above the 1ml mark with Cooltreat Reagent. Ensure there are no air bubbles trapped. Set the plunger at the 1.0ml line.

**NOTE:** Check that there are no drops on the syringe tip. Then eject the 1ml into the shaker tube pushing the plunger fully down. Touch the tip of the syringe against the inside of the tube to collect the last drop.

3. Add 10 drops of Cooltreat Indicator from the dropper bottle. The solution will turn red.
4. Fill a disposable pipette with sample water. Add sample water a few drops at a time , swirling the tube with each addition. The colour will change to a cloudy purple, then a greyish colour. Add sample drop by drop at this point until a permanent green tint is produced. **The sample may now be measured.**
5. Read the % Cooltreat in the sample from the liquid level in the tube.
6. Record the result as % Cooltreat AL.

Interference: Note that presence of other types of corrosion inhibitors may cause incorrect results.
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## pH Test Method

1. Take a sample of water to be tested in a clean, suitable container.
2. Take a ph test strip and dip it in the sample for about 10 seconds.
3. Take the stripe out of the sample and compare its colour with that of the colour scale provided.
4. Read the pH value and note the date the test was carried out.
5. Record the result as pH.

## Quantab Chloride Test Method

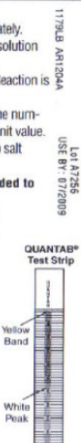


### DIRECTIONS:

1. Remove a titrator from bottle and replace cap immediately.
2. Insert lower end of titrator into solution. Do not allow solution to reach yellow completion band at top of titrator.
3. Allow solution to completely saturate wick of titrator. Reaction is complete when yellow band turns dark.
4. Note where the tip of the white chloride peak falls on the numbered Quantab<sup>®</sup> scale. This represents the Quantab<sup>®</sup> unit value.
5. Refer to the table below to convert Quantab<sup>®</sup> units into salt concentration.

NOTE: Filtration of the sample solution may be needed to prevent obstruction of the titrator.

Quantab Units	%NaCl	ppm(mg/L) Cl <sup>-</sup>	Quantab Units	%NaCl	ppm(mg/L) Cl <sup>-</sup>
1.0	0.005	31	4.4	0.034	208
1.2	0.006	37	4.6	0.037	225
1.4	0.007	43	4.8	0.040	243
1.6	0.008	50	5.0	0.043	262
1.8	0.009	57	5.2	0.047	283
2.0	0.011	65	5.4	0.050	305
2.2	0.012	73	5.6	0.054	328
2.4	0.014	82	5.8	0.058	352
2.6	0.015	91	6.0	0.062	379
2.8	0.017	102	6.2	0.067	407
3.0	0.019	112	6.4	0.072	437
3.2	0.020	124	6.6	0.077	469
3.4	0.022	136	6.8	0.083	504
3.6	0.025	149	7.0	0.089	542
3.8	0.027	162	7.2	0.096	583
4.0	0.029	177	7.4	0.103	628
4.2	0.032	192			



## Quantab Chloride Test Method

1. Remove a chloride test strip from the bottle and replace the cap immediately.
2. Insert the lower end of the titration strip into the sample. Do not allow the sample to reach the yellow completion band at the top of the strip (example 1).
3. Allow the sample water to completely saturate the wick of the titration strip. The reaction is complete when the yellow band turns dark (example 2).
4. Note where the tip of the white chloride peak falls on the numbered Quantab scale.
5. Refer to the table to convert Quantab units into chloride value.
5. Record the result as ppm Chloride.

Example 1



Example 2



## **Cooltreat AL Replacement Consumables**

WTS-K101789 Cooltreat AL Test Kit

WTS-P100923 Cooltreat AL Reagent Pack

WTS-P100924 Cooltreat AL Syringe & Pipette Pack

WTS-B101874 Cooltreat AL Shaker Tube

WTS-P101881 pH Test Strip 4-10 (100) 2 Pack

WTS-B101872 Hach Quantab Chloride Test Strip 30 - 600ppm (40)