

# Total Nitrogen (TN) Test Procedure

## ► Required Equipment

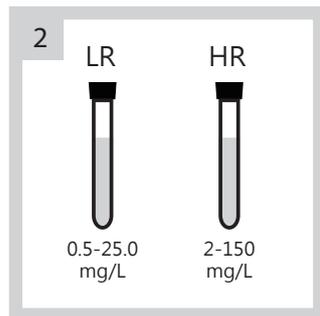
1. CR 25, Reactor
2. WD 100, Multiparameter Colorimeter
3. Hach, Total Nitrogen Reagent Set
4. Pipette and Pipette Tip
5. Micro Funnel

## ► Inspection Before Test

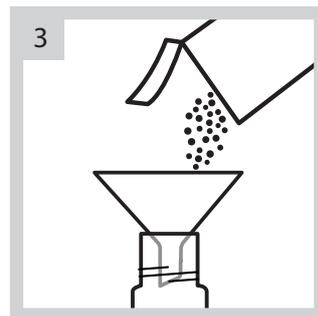
1. Keep the entire operating process out of direct sunlight. UV light will change the color of sample.



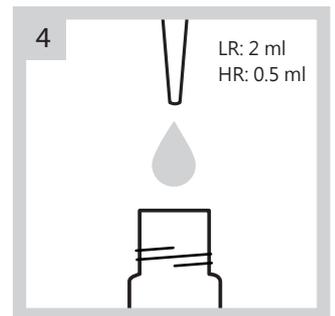
1  
Turn on CR 25 reactor then start **TN program** to preheat to 105°C.



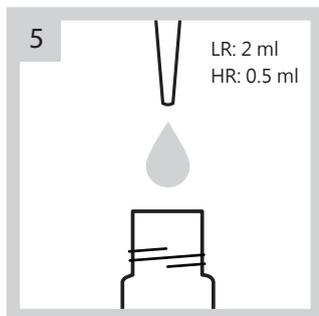
2  
Select the appropriate concentration of reagent according to the nitrogen concentration of sample.



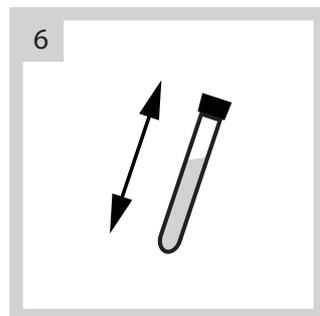
3  
Add one pack of Total Nitrogen Persulfate powder pillow to each vial.



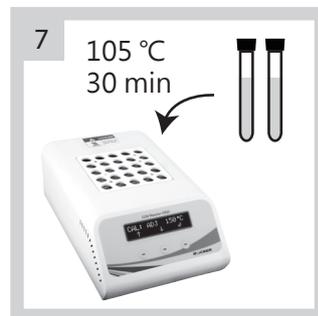
4  
Add pure water to one reagent vial as the blank sample. Adding volume is as below: LR: 2 ml, HR: 0.5 ml.



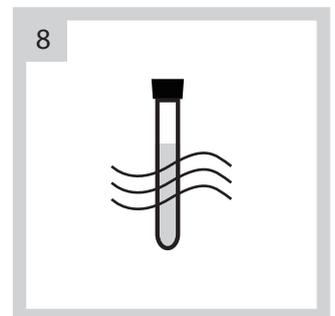
5  
Add sample to another reagent vial as the test sample. Adding volume is as below: LR: 2 ml, HR: 0.5 ml.



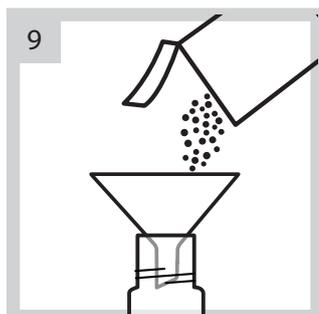
6  
Close the vials and shake vigorously for more than 30 seconds.  
• Undissolved powder will not affect the test accuracy



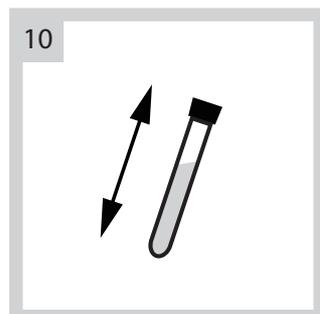
7  
Put the vials into CR 25 reactor then start to countdown from 30 mins at 105°C.



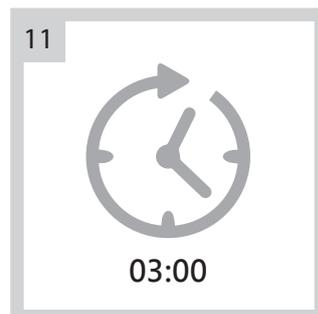
8  
**Immediately** remove the vials at exactly 30 mins and cool vials down to room temperature.



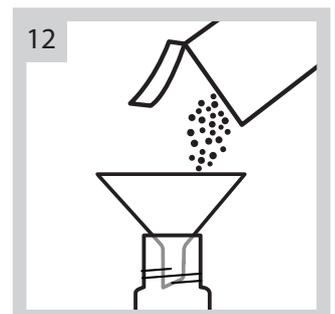
9  
Add one pack of Total Nitrogen Reagent A powder pillow to each vial.



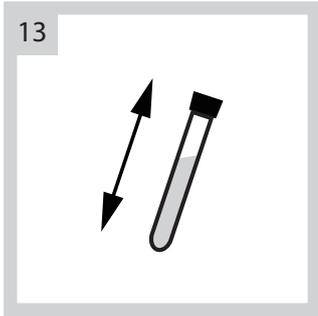
10  
Close the vials and shake vigorously for more than 30 seconds.



11  
Stand for a 3-min reaction.

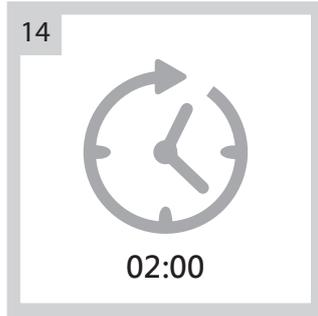


12  
Add one pack of Total Nitrogen Reagent B powder pillow to each vial.

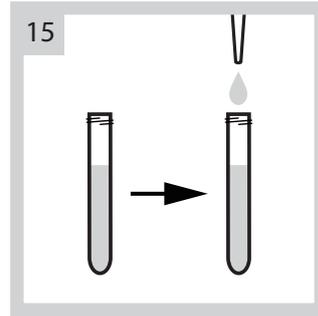


Close the vials and shake vigorously for more than 15 seconds.

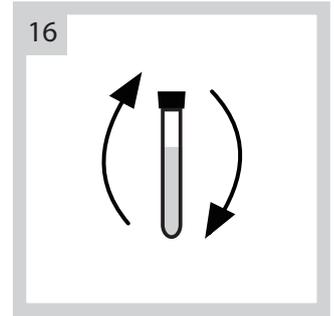
- The solution will turn yellow gradually



Stand for a 2-min reaction.



Use pipette to transfer 2 ml prepared sample to a new Total N - LR or Total N - HR vial.



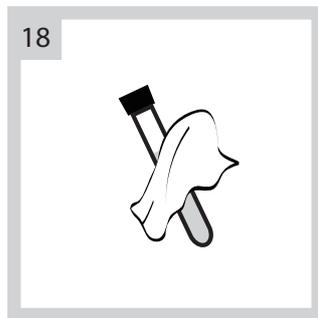
Close the vials and invert 10 times slowly for well mix.

- The vials will turn warm

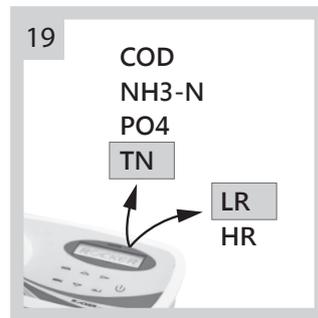


Stand for a 5-min reaction.

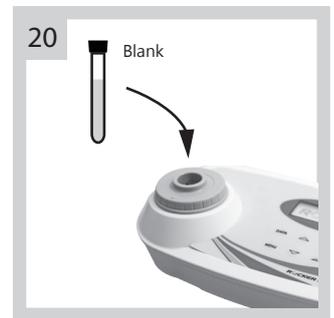
- The yellow color will intensify



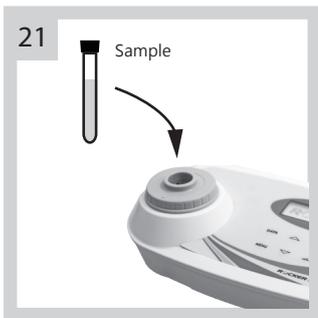
Clean the vial.



Turn on WD 100 colorimeter, then select test item and concentration range.



Insert the blank sample vial into WD 100 colorimeter to start a zero calibration.



Insert the test sample vial into WD 100 colorimeter to start a test.



Get TN concentration