Environics **Technical Note: 012**

Verification of the ChemPro100i's Ammonia Identification Performance

The Test Stick Confirms the Performance of all Sensors

It is recommended that the Test Stick that is supplied with every ChemPro100i be used to verify the performance of the ChemPro100i prior to each and every use. However, while the Test Stick provides a gross test of all sensors, it does not fully test for the Ammonia identification capabilities of the ChemPro100i as found in the TIC-ID 1.3.2E library. To fully test this ammonia identification capability ammonia ions are required.

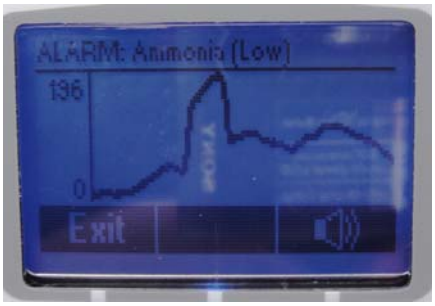
Ammonia Confirmation is Quick, Easy and Cheap

Easily obtained aqueous ammonia commonly found in any supermarket is all that is required to test the ChemPro100i's ammonia identification performance.

1. Turn on ChemPro100i
2. Perform sensor test using the Test Stick supplied with the ChemPro100i
3. After a successful sensor test change the library in the ChemPro100i to the TIC-ID library.
4. Confirm that the ChemPro100i is in the TIC-ID library by returning to the main screen.
5. Change the ChemPro100i to the Trend screen.
6. Open the household ammonia bottle and hold the sampling cap above the opening of the bottle (do not stick the sample tube too far into the bottle).

7. Confirm that the ChemPro100i is responding by watching the Trend line increase

Within seconds the ChemPro100i should alarm and display "Ammonia" in alphanumeric characters at the top of the trend screen.



8. Remove the ChemPro100i from the ammonia bottle, close the ammonia bottle and let the ChemPro100i clear down to a zero, or a near zero baseline before use. This should take a couple of minutes.
9. If the ChemPro100i does not pass the ammonia verification test, wait 5 minutes before repeating the test. If it fails three times but it still passes the Test Stick test, it is suitable for all operations OTHER than the identification of ammonia. To restore the ammonia identification capabilities the ChemPro100i will need to be returned to the factory for service.

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Expensive Ammonia “Calibration Gas” is Not Required

Do not use expensive ammonia calibration gas for this verification. Virtually all of these calibration gases are packaged with no oxygen and no humidity. The ChemPro100i is an ambient air gas/vapor classifier and ambient air is NEVER completely oxygen or humidity deficient. The fast acting sensor array in the ChemPro100i requires oxygen and humidity for its detection performance and it will not be able to detect ammonia with no oxygen or humidity present.

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