

Nitrogen: Ammonia, Nitrate, Nitrite

Nitrogen, Ammonia

Concentrations of ammonia in rivers and drinking water reservoirs indicate the presence of agricultural or urban pollution. When the concentration of ammonia is high, it can alter the smell and taste of water. In industrial applications, high concentrations of ammonia cause corrosion in pipes. Ammonia is also monitored in aquariums and fish farming applications because of its toxicity to fish. HANNA instruments' kits allow you to test ammonia in fresh and in salt water using the Nessler method.



HI 3824 and HI 3826 - Ammonia

Nitrogen, Nitrate

Nitrate is an essential nutrient for plants and must be monitored in order to maintain proper health and optimum yield. However, excessive levels are detrimental and can even be toxic, effectively "burning" the plants. Nitrate can be found in natural surface water, as well as in underground water. In drinking water, the nitrate level must be monitored because of its toxic nature. Domestic water supplies should not contain nitrate in excess of 45 mg/L.



HI 3874 - Nitrate Colorimetric Test Kit

Nitrogen, Nitrite

Nitrite is considered the most diffused chemical pollutant. It is produced during ammonia oxidation or it originates from agricultural, urban and industrial waste. In fresh water aquaculture and aquariums, nitrite is highly toxic to fish, starving the blood of oxygen, effectively suffocating the fish. Nitrite should be kept at very low concentrations (below 0.1 mg/L), since it is carcinogenic and dangerous to humans and animals. At the same time, in applications such as cooling towers, it is kept at high concentrations, because of its capacity to prevent corrosion.

| Parameter | Code | Method | Range* | Smallest Increment | Chemical Method | Number of Tests | Weight |
|---|----------|--------------|------------------|--------------------|-------------------|-----------------|--------|
| Ammonia (as NH ₃ -N) | | | | | | | |
| Fresh water | HI 3824 | Colorimetric | 0.0-2.5 mg/L | 0.5 mg/L | Nessler | approx. 25 | 180 g |
| Fresh water | HI 38049 | Checker Disc | 0.0-3.0 mg/L | 0.1 mg/L | Nessler | 100 | 248 g |
| Salt water | HI 3826 | Colorimetric | 0.0-2.5 mg/L | 0.5 mg/L | Nessler | approx. 25 | 180 g |
| Nitrate (as NO ₃ -N) | HI 3874 | Colorimetric | 0-50 mg/L | 10 mg/L | Cadmium reduction | 100 | 156 g |
| irrigation water and soil | HI 38050 | Checker disc | water: 0-50 mg/L | water: 1 mg/L | Cadmium reduction | 100 | 1026 g |
| | | | soil: 0-60 mg/L | soil: 2 mg/L | Cadmium reduction | 100 | |
| Nitrite (as NO ₂ -N) | HI 3873 | Colorimetric | 0.0-1.0 mg/L | 0.2 mg/L | Chromotropic acid | 100 | 169 g |
| | HI 38051 | Checker disc | 0.00-0.50 mg/L | 0.01 mg/L | Chromotropic acid | 100 | 446 g |

* 1 mg/L = 1 ppm

For spare reagents, see section V. For accessories, see section U.