

# 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
<b>Ammonia</b> (as NH <sub>3</sub> -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
<b>Nitrate</b> (as NO <sub>3</sub> -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	
<b>Nitrite</b> (as NO <sub>2</sub> -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.