



# CYANIDE (CN<sup>-</sup>)

## GENERAL:

The main sources of cyanide in water are wastewaters from chemical and electroplating industry. The chemical industry uses cyanide e.g. for organical synthesis, which are important basis materials for synthetic resin and fibre. Cyanide is also applied by the electroplating industry for the surface hardening of steel. Hypochlorite is often used as wellknown and economical method for the decontamination of cyanidic waste water. The correct functioning of the detoxication plant can be surveilled by the EASY/CN.

Depending on the pH value, cyanide appears in water as CN or HCN, the hydrocyanic acid, which is extremely toxic for human. Therefore according to WHO rules, in drinking water cyanide may be present in very small traces only (< 0,05mg/l).

## METHOD:

The concentration of cyanide ions is determined by means of an ion selective electrode (ISE), which has a membrane that is permeable especially for free CN<sup>-</sup> ions. The cations of some metals form cyanide complexes, which can not be detected. For adjusting an alkalic pH-value of the sample, a buffer solution is added, which controls the chemical behaviour of the cyanide ions in the sample and reduces the influence of disturbing elements.

## TECHNICAL DATA:

	CYANIDE
Measuring range	0,2 ... 260 mg/l (special ranges on request)
Resolution	max. 4 digits over 3 decades
Method accuracy	APHA 4500-CN F
Repeatability	max. deviation < 4% of highest decade (variable)
Max. meas. frequ.	8 minutes
Measuring system	ion selective electrode for Cyanide
Reagents	1 (buffer)
Reagents consumption	1 ml / measuring
Disturbances K <sub>i,j</sub> Pot	I=2.2 , Cl=1.1E-5 , Br=1.6E-4 , S2O3=3.2E-4

note: K<sub>i,j</sub><sup>Pot.</sup> : Cl= 1.1E-5 means that this element (chloride) only has an influence on the measuring, if its concentration is approx. 10000 times higher than the concentration of CN (cyanide) ions.  
I=2.2 means that this element has a big influence on the measuring and should not be present.

TECHNICAL MODIFICATIONS RESERVED