# ISE Application Note No. I - 8

| **Title:** | **Sulphide content of waste water** |
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| ***Summary*:** | Determination of sulphide in waste water by direct potentiometry with the Silversulphide ISE |

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| ***Sample:*** | Different waste water samples |

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| ***Sample Preparation:*** | (see remarks) |

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| ***Instruments and Accessories:*** | 692 pH/Ion Meter, 725 Dosimat, 728 Magnetic Stirrer, 6.0502.180 $Ag_2S$ ISE, 6.0726.100 Ag/AgCl reference electrode (c(KCl ) = 3 mol/L), printer |

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| ***Reagents:*** | **Sulphide standard:**<br>5000 mg/L $S^{2-}$, prepared from $Na_2S$ * 9 $H_2O$ (37.46 g/L). Titre has to be de determined by potentiometric titration with $AgNO_3$.<br>**Antioxidant ISA:**<br>Contains 2 mol/L NaOH and 0.2 mol/L each, ascorbic acid and $Na_2EDTA$. |

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| ***Analysis:*** | Pipette 50 mL ISA into a beaker and deaerate it with nitrogen. Add 10.0 mL sample. Start the automatic determination by three standard additions and a preselected delta U of 12 mV. |

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| ***Remarks:*** | To avoid loss of volatile sulphides in neutral or acidic solutions add 10 mL c(NaOH) = 10 mol/L to the sample bottle (1 L) prior to sampling.<br>Replace the outer electrolyte of the reference electrode daily.<br>For low sample concentrations use lower standard concentrations.<br>**Results:**<br>sample a) AVG(3) = 67.2 +/- 0.2 mg/L $S^{2-}$<br>sample b) AVG(3) = 73.3 +/- 1.1 mg/L $S^{2-}$<br>sample c) AVG(3) = 225 +/- 0.5 mg/L $S^{2-}$ |