

THPS

56I701210

0 - 100 ppm

Material

Reagents	Packaging Unit	Part Number
THPS Reagent 1	50 mL	56L042250
THPS Reagent 2	65 mL	56L044565
THPS Reagent 3	65 mL	56L044465
THPS Reagent 4	Powder / 50 g	56P047550
KS527-1 N Zinc Acetat	65 mL	56L052765

The following accessories are required.

Accessories	Packaging Unit	Part Number
Syringe, 10 ml	1 Pieces	56A008601
Titration jar with cap, plastic, 60 mL	1 Pieces	56A006701
Filter GF/C, 25 mm	1 Pieces	56A019950
Titration Burette, 1 mL	1 Pieces	56A011101
Syringe Micro Burette	1 Pieces	56A011201

Application List

- Cooling Water
- Disinfection Control

Remarks

1. Under some circumstances, e.g. especially where a cationic surfactant is part of the THPS formulation dosed to the water, temperature may have an effect on the titration. Therefore for maximum accuracy, it is best to carry out the titration consistently between 20°C - 25°C.
2. Samples should be analysed without delay. If samples need to be cooled, fill a sample bottle to the top and cap to minimise the risk of oxidation with the air.
3. Samples should be filtered using a GF/C filter if suspended matter is present.
4. If hydrogen sulphide is present in the sample, 20 ml of sample must be pre-treated with 10 drops Zinc Acetate Solution. A white precipitate will then form and must be removed using a GF/C filter. Continue to step 2 with 10ml of this pre-treated sample.
5. THPS Reagent 2 is added to mask interference to the titration end point caused by the presence of cationic surfactants. If it is known that cationic surfactants are not present and you are seeing a sharp blue black end point without the reagent 2, this stage may be omitted.
6. **For maximum accuracy, make up the THPS standard solutions fresh when needed and use them without delay.**

Procedure

1. Take a 10 mL cooled sample (see notes 1-4).
2. Using a syringe, add 2 mL THPS Reagent 3 solution to the titration jar and swirl to mix.
3. Add 6 drops of THPS Reagent 2 and swirl to mix.
4. Add a scoop of THPS Reagent 4 and swirl to mix.
5. Titrate with THPS Reagent 1, using a 1 mL syringe plus needle, to a blue/black end point which does not disappear immediately on swirling (see note 4).
6. Note: Ensure the needle tip is below the surface of the liquid while dispensing the THPS Reagent 1.
7. Record the titre (S). This is the treated sample.
8. Repeat steps 1-5 using a 10 mL blank sample (system water not containing THPS). Record the titre (B). (This is the untreated sample.)

Calculation:

Calculate the THPS (as Tetrakis (hydroxymethyl) Phosphonium sulfate) as follows: THPS Concentration (ppm) = (S-B) x 1.02