Method: AOX determination is carried out in 3 steps:
1. Solid phase extraction with NANOSORB for AOX
2. Decomposition of the concentrated adsorber medium
3. Determination as chloride with reagent set NANOCONTROL® AOX 3

Contents of the reagent set:
- 20 NANOSORB® cartridges
- 1 preparation box containing:
  - 2 x 100 mL rinsing solution concentrate for preparation of AOX 3 R1 (fill up each to 1 L with dist. water)
  - 1 tube NANOFIX AOX 3 R2
  - 5 mL AOX 3 R3
- 20 reaction tubes 16 mm OD
- 1 detection box containing:
  - 20 test tubes AOX 3
  - 2 test tubes Chloride R2
- 1 test tube with blank value "NULL"

Hazard warning:
Reagent R2 contains sodium peroxodisulfate 20–100 %, reagent R3 contains sodium hydroxide solution 0.5–2 %, reagent R4 contains nitric acid 3–5 %, test tubes contain nitric acid 5–20 %, reagent Chloride R2 contains mercuric(II) thiocyanate 0.32–0.64 % in methanol 50–100 %.

Method:
1. Connect the syringe to the cartridge using the adaptor and blow out any excess of air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove the vessel from the microwave and let it cool for about 10 min. Turn the pressure vessel upside down once and open it with caution. Add 3.5 mL R4, close and mix.
2. Decomposition if COD content is high, with supplement kit, using a microwave

Add to the decomposition vessel
1 NANOFIX R2
5 mL R3, close and mix.
Open and add the NANOSORB® to this solution using tweezers. Add a glass rod to the vessel to prevent the NANOSORB® from swimming on the surface. Close the decomposition vessel. Place it on the outer edge of the microwave revolving plate and heat 23 s at 900 VA or 28 s at 750 VA (always use the highest power rating of your microwave oven).
Remove vessel from microwave and let cool for about 10 min. Turn the pressure vessel upside down once and open it with caution. Add 3.5 mL R4, close and mix.

Analysis of AOX:
1. NANOSORB® cartridge in 4–5 portions with a total of 100 mL R1 rinsing solution in order to remove inorganic chloride.
2. Add to the decomposition vessel
1 NANOFIX R2
1 black spoon R5 and
5 mL R3, close and mix.
Open and add the NANOSORB® to this solution using tweezers. Add a glass rod to the vessel to prevent the NANOSORB® from swimming on the surface. Close the decomposition vessel. Place it on the outer edge of the microwave revolving plate and heat 23 s at 900 VA or 28 s at 750 VA (always use the highest power rating of your microwave oven).
Remove vessel from microwave and let it cool for about 10 min. Turn the pressure vessel upside down once and open it with caution. Add 3.5 mL R4, close and mix.

Measurements:
For using MACHEREY-NAGEL photometers see manual, test 0-07.
For other photometers check whether measurement of round glass tubes is possible. Verify calibration curve for each type of instrument by measuring standard solutions.

For other photometers check whether measurement of round glass tubes is possible. Verify calibration curve for each type of instrument by measuring standard solutions.

Photometers of other manufacturers:

1. Connect a NANOSORB® cartridge to the sample (up to 1000 mg/L COD, REF 916 072) can be used.

When using 200 mL of rinsing solution, this method is also suitable for analyzing seawater.

Procedure:
1. Manual extraction

Connect a NANOSORB® cartridge to the syringe 50 mL with the aid of an adaptor. Pour
100 mL test sample (the pH value of the sample must be between pH 3 and 5) into a glass beaker 150 mL, dip the NANOSORB® cartridge into the test sample and lift the syringe plunger up and down 20 times to adsorb the organically bound halogens from the sample (accessories: stand with clamp and boss).

After extraction disconnect NANOSORB® cartridge from the adaptor and syringe. Rinse the NANOSORB® cartridge slowly in 4–5 portions with a total of 100 mL R1 rinsing solution in order to remove inorganic chloride. Connect the syringe to the cartridge more and blow out any excess of water from the NANOSORB® adsorber with 2 strong draughts of air.

10. Extraction using the pump set

Close valve of the flask. Pour
100 mL test sample (the pH value of the sample must be between pH 3 and 3) or
1000 mL test sample (the pH value of the sample must be between pH 3 and 5) for the sensitive range into the flask and connect a NANOSORB® cartridge to the flask using the adaptor. Open valve and start pumping for 20 min to adsorb the organically bound halogens from the sample.

After extraction disconnect the NANOSORB® cartridge from the adaptor and flask. Rinse the NANOSORB® cartridge in 4–5 portions with a total of 100 mL R1 rinsing solution in order to remove inorganic chloride. Connect the syringe to the cartridge using the adaptor and blow out any excess of water from the NANOSORB® adsorber with 2 strong draughts of air.

Reference:
German Standard Methods for the Examination of water, waste water and sludge (DIN EN 1485 H14 and DIN 38409 H22)

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