NANOCOLOR® AOX 3

Test 0-07$_2$

REF 985 007 / 918 072

Adsorbable organically bound halogens

sensitive range / high COD contents

Tube test

Method: Determination of AOX in aqueous samples in 3 steps:
1. Solid phase extraction with ***NANOSORB*** for AOX
2. Decomposition of enriched adsorber
3. Determination as chloride with reagent set *NANOCOLOR*® AOX 3

		Method
Range:	0.1 - 3.0 mg/l AOX	**0071**
	0.01 - 0.30 mg/l AOX	**0072**

NANOCOLOR® reagent set: AOX 3 (REF 985 007) and Supplement kit for AOX (REF 918 072)

Wavelength: **470** nm

Interferences: COD > 1000 mg/l interferes if the sample volume is 100 ml.
COD > 100 mg/l interferes if the sample volume is 1 litre.
The method can be applied for the analysis of sea water if 200 ml of rinsing solution are used.

Procedure: Requisite accessories: start set for AOX (REF 916 111), piston pipette with disposal tips, CHROMAFIL® membrane filters (REF 916 50) or folded filters MN 619 de ¼ (REF 539 011), optional: pump set for AOX (REF 916 115)

1. Extraction:

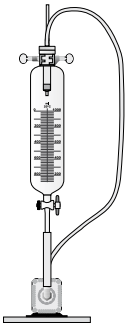
a) manual procedure

Connect a ***NANOSORB*** cartridge to the 50 ml syringe with the aid of an adaptor. Pour
100 ml test sample into a 150 ml glass beaker, dip the ***NANOSORB*** cartridge into the test sample (pH < 5) 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 the ***NANOSORB*** cartridge from the adaptor and syringe. Rinse the***NANOSORB*** cartridge slowly in 4 – 5 portions with a total of
100 ml AOX R1 rinsing solution in order to remove inorganic chloride. Connect the syringe to the cartridge once more and blow out any excess of water from the ***NANOSORB*** adsorber with two strong draughts of air.

b) automatic procedure using the pump set

Close valve of the flask. Pour
100 ml test sample or
1000 ml test sample *(sensitive range)* into the flask and connect a ***NANOSORB*** cartridge to the flask using the adaptor (see figure). 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 slowly in 4 – 5 portions with a total of
100 ml AOX 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 two strong draughts of air.

Adsorbable organically bound halogens

(continued)

2. Decomposition if high COD contents are present:

a) Heating block

Add to reaction tube 14 mm ID
1 ***NANOFIX*** **AOX R2**,
1 **black spoon AOX R5** and
5 **ml AOX R3**, close and mix. Open and add the ***NANOSORB*** to this solution with the help of a funnel, then press it down to the bottom of the tube using tweezers. Close the tube, place it into the heating block and heat at 120 °C for 30 min. Remove the tube from the heating block, shake gently and leave it to cool.
Open tube, add
3.5 **ml AOX R4** and
1 **orange spoon AOX R6** *(the solution becomes turbid)*, close and mix.
Filter the solution with membrane or folded filters.

b) Microwave

Add to the decomposition vessel
1 ***NANOFIX*** **AOX R2**,
1 **black spoon AOX R5** and
5 **ml AOX 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 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 AOX R4** and
1 **orange spoon AOX R6** *(the solution becomes turbid)*, close and mix.
Filter the solution with membrane or folded filters.

3. Determination of AOX:

Open test tube AOX, add
4.0 **ml** of the filtered decomposition solution and
1.0 **ml Chloride R2**, close and mix.
Clean outside of test tube.

Reaction time: 3'00 min

Measurement: Insert test tube

Reference: German standard methods for the examination of water, waste water and sludge (DIN EN 1485 H14 and DIN 38409 H22)