

383b: DESULFONAUTICUS MEDIUM

Solution A	972.00	ml
Solution B	20.00	ml
Solution C	1.00	ml
Solution D	13.00	ml

1. Solution A is sparged with 80% H₂ and 20% CO₂ gas mixture to reach a pH below 6 (at least 30 min), then dispensed under the same gas atmosphere into anoxic Hungate-type tubes or serum vials to 30% of their volume and autoclaved. Solution B is autoclaved separately under 80% N₂ and 20% CO₂ gas atmosphere. Solutions C and E are autoclaved under 100% N₂ gas. Solution D is prepared under 100% N₂ gas and filter-sterilized. To complete the medium appropriate amounts of solutions B to E are added to the sterile solution A in the sequence as indicated. Final pH of the medium should be 7.0 – 7.2.
2. After inoculation pressurize vials to 2 bar overpressure with sterile 80% H₂ and 20% CO₂ gas mixture.
3. Note: Addition of 10 - 20 mg sodium dithionite per liter (e.g. from 5% (w/v) solution freshly prepared under N₂ and filter-sterilized) may stimulate growth of some strains at the beginning. For transfers use 5 - 10% inoculum. Incubate all strains in the dark.

For DSM 4206, DSM 15269: Supplement medium with 1.00 g/l Na-acetate, 2.00 g/l Trypticase peptone and 2.00 g/l yeast extract added to the autoclaved medium from sterile anoxic stock solutions prepared under N₂ gas.

For DSM 15286, DSM 21156, DSM 101864: Supplement medium with 1.00 g/l Na-acetate and 1.00 ml/l seven vitamins solution (see medium 503) added to the autoclaved medium from sterile and anoxic stock solutions. Vitamins are sterilized by filtration. Adjust pH of medium to 6.5 - 6.7 prior to inoculation.

For DSM 111414: Adjust pH of final medium to 6.6.

Solution A

Na ₂ SO ₄	3.00	g
KH ₂ PO ₄	0.20	g
NH ₄ Cl	0.30	g
NaCl	21.00	g
MgCl ₂ x 6 H ₂ O	3.00	g
KCl	0.50	g
CaCl ₂ x 2 H ₂ O	0.15	g
Trace element solution SL-10	1.00	ml
Selenite-tungstate solution	1.00	ml
Sodium resazurin (0.1% w/v)	0.50	ml
Distilled water	970.00	ml

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Solution B

Na ₂ CO ₃	1.00	g
Distilled water	20.00	ml

Solution C

Wolin's vitamin solution (10x)	1.00	ml
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Solution D

Na ₂ S x 9 H ₂ O	0.40	g
Distilled water	13.00	ml

Selenite-tungstate solution (from medium 385)

NaOH	0.50	g
Na ₂ SeO ₃ x 5 H ₂ O	3.00	mg
Na ₂ WO ₄ x 2 H ₂ O	4.00	mg
Distilled water	1000.00	ml

Trace element solution SL-10 (from medium 320)

HCl (25%)	10.00	ml
FeCl ₂ x 4 H ₂ O	1.50	g
ZnCl ₂	70.00	mg
MnCl ₂ x 4 H ₂ O	100.00	mg
H ₃ BO ₃	6.00	mg
CoCl ₂ x 6 H ₂ O	190.00	mg
CuCl ₂ x 2 H ₂ O	2.00	mg
NiCl ₂ x 6 H ₂ O	24.00	mg
Na ₂ MoO ₄ x 2 H ₂ O	36.00	mg
Distilled water	990.00	ml

First dissolve FeCl₂ in the HCl, then dilute in water, add and dissolve the other salts. Finally make up to 1000.00 ml.

Wolin's vitamin solution (10x) (from medium 120)

Biotin	20.00	mg
Folic acid	20.00	mg
Pyridoxine hydrochloride	100.00	mg
Thiamine HCl	50.00	mg
Riboflavin	50.00	mg
Nicotinic acid	50.00	mg
Calcium D-(+)-pantothenate	50.00	mg
Vitamin B ₁₂	1.00	mg

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p-Aminobenzoic acid	50.00	mg
(DL)-alpha-Lipoic acid	50.00	mg
Distilled water	1000.00	ml