

Product information

VWR® pH Buffer solutions AVS TITRINORM®

GENERAL INFORMATION

The ready to use AVS TITRINORM® buffer solutions, are produced under ISO 17025 / ISO 17034 conditions and guarantee highest quality levels.

- For the preparation, all raw materials used are AnalaR NORMAPUR® Analytical reagent grade.
- Traceability: traceable to SRM from NIST
- Shelf life: 24 months
- Storage: +15°C to +25°C tightly closed in the original packaging
- CRM: pH 1,68 to pH 10 are ISO 17034 accredited (pH 1, pH 11 and pH 12 are not)

IMPORTANT NOTE: The temperature deviation data provided below are for reference only. Values provided are not batch-specific and should not be considered as certified values.

1. Buffer solution pH 1.00 ± 0.02 (20°C) 32031.*

Composition: Glycine; hydrochloric acid; sodium chloride

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	-0,01	+0,02	±0	±0	+0,01	±0	-0,02	-0,01

2. Buffer Solution pH 2.00 ± 0.02 (20°C) 32032.*

Composition : Citric acid; sodium hydroxide; hydrochloric acid

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	±0	±0	±0	-0,01	-0,02	-0,02	-0,01	-0,03

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3. Buffer Solution pH 3.00 ± 0.02 (20°C) 32033.*

Composition: Citric acid; sodium hydroxide; hydrochloric acid

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,02	+0,01	±0	-0,02	-0,03	-0,04	-0,04	-0,05

4. Buffer Solution pH 4.00 ± 0.02 (20°C) 32095.*

Composition: Potassium hydrogen phthalate

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	±0	-0,01	±0	±0	±0	+0,01	+0,01	+0,01

5. Buffer Solution pH 4,66 ± 0.02 (20°C) 98192.*

Composition: Acetic acid; sodium acetate

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	±0	-0,01	±0	-0,01	-0,01	-0,01	±0	±0

6. Buffer Solution pH 5,00 ± 0.02 (20°C) 32035.*

Composition: Citric acid; sodium hydroxide

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,01	±0	±0	-0,02	-0,02	-0,02	-0,02	-0,02

7. Buffer Solution pH 6,00 ± 0.02 (20°C) 32036.*

Composition: Citric acid; sodium hydroxide

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	±0	±0	±0	±0	±0	±0	+0,01	+0,01

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8. Buffer Solution pH 6,88 ± 0.02 (20°C) 83601.*

Composition: Potassium dihydrogenphosphate; di-sodium hydrogenphosphate

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,07	+0,01	±0	-0,02	-0,03	-0,04	-0,04	-0,04

9. Buffer Solution pH 7,00 ± 0.02 (20°C) 32096.*

Composition: Potassium dihydrogenphosphate; di-sodium hydrogenphosphate

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,05	+0,02	±0	-0,02	-0,02	-0,04	-0,03	-0,04

10. Buffer Solution pH 8,00 ± 0.02 (20°C) 32038.*

Composition: Di-Sodium tetraborate; hydrochloric acid

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,02	±0	±0	-0,05	-0,06	-0,08	-0,08	-0,09

11. Buffer Solution pH 9,00 ± 0.02 (20°C) 32039.*

Composition: Boric acid; potassium chloride; sodium hydroxide

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,10	+0,04	±0	-0,05	-0,08	-0,11	-0,13	-0,14

12. Buffer Solution pH 9,22 ± 0.02 (20°C) 32097.*

Composition: Di-sodium tetraborate

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,10	+0,04	±0	-0,04	-0,07	-0,06	-0,12	-0,16

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13. Buffer Solution pH 10,00 ± 0.02 (20°C)

32040.*

Composition: Sodium hydrogen carbonate; sodium carbonate

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,11	+0,04	±0	-0,06	-0,10	-0,13	-0,14	-0,16

14. Buffer Solution pH 11,00 ± 0.02 (20°C)

32041.*

Composition: Di-sodium hydrogenphosphate; sodium hydroxide

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,16	+0,01	±0	-0,12	-0,22	-0,17	-0,36	-0,44

15. Buffer Solution pH 12,00 ± 0.05 (20°C)

32042.*

Composition: Di-sodium hydrogenphosphate; sodium hydroxide

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,27	+0,09	±0	-0,14	-0,28	-0,21	-0,47	-0,58

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PH BUFFERS @ 25°C

1. Buffer solution pH 1.68 ± 0.02 (25°C) 85506.*

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	-0,02	+0,01	±0	±0	+0,01	±0	+0,01	±0

2. Buffer Solution pH 4.01 (25°C) 85511.*

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	-0,02	-0,02	-0,02	-0,01	-0,01	-0,01	±0	±0

3. Buffer Solution pH 6.87 (25°C) 85515.*

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,05	+0,03	±0	-0,01	-0,02	-0,03	-0,03	-0,03

4. Buffer Solution pH 7.41 (25°C) 85516.*

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,05	+0,02	±0	-0,01	-0,01	-0,01	-0,04	-0,04

5. Buffer Solution pH 9.18 (25°C) 85517.*

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,12	+0,06	±0	-0,01	-0,06	-0,04	-0,11	-0,12

6. Buffer Solution pH 10.01 (25°C) 85518.*

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,17	+0,10	±0	+0,01	-0,04	-0,01	-0,10	-0,14

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COLORED PH BUFFERS @ 20°C

1. Buffer Solution pH 4.00 ± 0.02 (20°C) - RED - 32044.*

Composition: Potassium hydrogen phthalate

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	±0	±0	±0	-0,01	-0,01	-0,01	-0,02	-0,02

2. Buffer Solution pH 7,00 ± 0.02 (20°C) - GREEN - 32045.*

Composition: Potassium dihydrogenphosphate; di-sodium hydrogenphosphate

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,04	+0,01	±0	-0,02	-0,03	-0,04	-0,04	-0,05

3. Buffer Solution pH 9,00 ± 0.02 (20°C) - BLUE - 32046.*

Composition: Boric acid; potassium chloride; sodium hydroxide

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,10	+0,04	±0	-0,06	-0,08	-0,12	-0,13	-0,14

4. Buffer Solution pH 10,00 ± 0.02 (20°C) - YELLOW - 85680.*

Composition: Sodium hydrogen carbonate; sodium carbonate

Temperature (°C)	10	15	20	25	30	35	37	40
ΔpH	+0,10	+0,03	±0	-0,07	-0,10	-0,15	-0,16	-0,17