

Good's buffers (biological buffers)

Products Description / Overview

Organic biological buffers replace mineral buffers advantageously in many applications. Aminoethane and aminopropane sulfonic acids, developed and popularized by Good, are now popular for biological research and analysis. Good's buffers have the following characteristics:

- | | |
|------------------------------------------------|------------------------------------------------------|
| 1) High water-solubility | 2) Low cell membrane permeability |
| 3) Consistent acid-base dissociation constants | 4) Low metal chelating capability |
| 5) High chemical stability | 6) Low absorption spectra in UV and visible regions. |

Buffering agent (by pKa value order)	MW (g/mol)	useful pH range pKa (20°C)	pKa (25°C)	pKa (37°C)	cat.number
MES buffer	213.2(h)	pH 5.2-7.1 pKa=6.16	6.15	5.97	14035
Bis-Tris buffer	209.2	pH 5.8-7.2 -	6.5	6.36	36832
ADA buffer	190.1	pH 6.0-7.2 pKa=6.65	6.59	6.46	N1339
ACES buffer	182.2	pH 6.1-7.5 pKa=6.88	6.78	6.54	N1234 AH085
PIPES buffer	243(a) 335.4(h)	pH 6.1-7.5 pKa=6.80	6.76	6.66	UP06198
MOPSO buffer	225.3(f) 247.2(n)	pH 6.2-7.6 -	6.9	6.75	28148/N1420
Bis-6Tris Propane buffer	282.3	pH 6.3-9.5 -	6.8-9		24721
BES buffer	213.2 235.2(n)	pH 6.4-7.8 pKa=7.17	7.09	6.90	
MOPS buffer	209.3 231.2(n)	pH 6.5-7.9 pKa=7.13	7.20	7.02	06200
TES buffer	229.2 251.2(n)	pH 6.8-8.2 pKa=7.50	7.40	7.16	N1413
HEPES buffer	238.3 260.28(n)	pH 6.8-8.2 pKa=7.55	7.48	7.31	06194
DIPSO buffer	261.3	pH 7.0-8.2 -	7.60	7.35	28146
MOBS buffer	223.3	pH 6.9-8.3 -	7.6	-	BP361
TAPSO buffer	259.3 281.3(n)	pH 7.0-8.2 -	7.6	7.39	28150
HEPPSO buffer	268.3(a)	pH 7.1-8.5 -	7.8	6.66	28147
POPSO buffer	362.4(a) 406.3(n)	pH 7.2-8.5 -	7.8	7.63	28149
EPPS (HEPPS) buffer	252.3(a) 268.3(f)	pH 7.3-8.7 -	8.00	-	N1432
Tricine buffer	380.4(h)	pH 7.4-8.8 pKa=8.16	8.05	7.80	70611
Gly-Gly buffer	132.1	pH 7.5-8.9 -	8.20	-	01829

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Buffering agent (by pHa value order)	MW (g/mol)	useful pH range pKa (20°C)	pKa (25°C)	pKa (37°C)	cat.number
Bicine buffer	163.17(f)	pH 7.6-9.0 pKa=8.35	8.26	8.04	T3162
HEPBS buffer	263.3(f)	pH 7.6-9.0 -	8.30	-	S5175
TAPS buffer	243.3	pH 7.7-9.1 pKa=8.31	8.40	7.18	70501
AMPD buffer	105.1(f)	pH 7.8-9.7	8.80	-	00188
TABS buffer	257.3(f)	pH 8.2-9.6 -	8.9	-	1F688
AMPSO buffer	249.3	pH 8.3-9.7 -	9.00	9.10	61281 60653
CHES buffer	207.3	pH 8.6-10.0 9.3 - 9.7	9.49	9.36	62519 62506
CAPSO buffer	237.3 259.3(n)	pH 8.9-10.3 -	9.60	9.43	62519
AMP buffer		pH 9.0-10.5 -	9.70	-	-
CAPS buffer	221.3(f)	pH 9.7-11.1 pka=10.24	10.40	10.78	06190
CABS buffer	235.3(f)	pH 10.0-11.40	10.70	-	1F687

(a): MW of anhydrous compound

(h) hydrated compound

(f) free acid compound

(n) Na salt compound

Please inquire for specification, and other salt forms or solutions..

Storage: Room temperature (R)

Introduction to buffers

Biological buffers allow the pH of an aqueous solution to remain constant while the concentration of hydrogen ions may change.

Traditional buffering systems, like carbonate and phosphate buffers, are widely used, but are often not appropriate for many biological systems. These reagents do not buffer effectively above pH 7.5, and can interfere with some biological reactions. Some of the early alternatives, such as Tris and glycylglycine, buffers are effectively at higher pH levels but often show cytotoxic effects or interfere with chemical reactions (e.g. Tris/acylation).

Dr. Norman Good et al. addressed the above limitations. In 1966 he described a series of zwitterionic buffers, so-called "**Good's buffers**", that are thus very useful in research in biology and biochemistry.

Reference: Good, N.E., et al. (1966) Hydrogen Ion Buffers for Biological Research. *Biochemistry* 5(2), 467-477

$$\text{pH} = \text{pKa} + \log \frac{[\text{A}^-]}{[\text{HA}]}$$

Henderson-Hasselbach Equation:

Buffers requirements

In biological experiments, it is important to maintain the pH of the solutions used, i.e. most biological reactions occur at a neutral pH while some reactions (i.e. peroxidase enzyme) or processes (coating on polystyrene) need acidic or alkaline pH. Mixtures of appropriate weak acids and their conjugate bases, known as buffering agents, are usually used.

The buffers need to be effective in the neutral range, typically from 6 to 8 pH, in order to be useful for cell culture in vitro, enzyme assays and some electrophoretic applications at physiological pH. Furthermore, universally applicable buffers for biochemistry must be water soluble, not interfere with biological processes or biological membranes (penetration, solubilization, adsorption on surface, etc.), should not produce chelates or have known complex-forming tendency with metal ions (which are essential in biological systems), be non-toxic and have a very low U.V. absorption at wavelength >260 nm.

To meet these requirements, Dr. Good developed several aminoethane and aminopropane sulfonic acids that are now widely used for biological research and analysis. Good's buffers have the following characteristics:

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Good's buffers characteristics

Typically, the "Good's buffers" have pKa values at or near physiological pH, are non-toxic to cells, and are not absorbed through cell membranes. The concentration, temperature, and ionic composition of the medium has minimal affect on the buffering capacity. These buffers are resistant to enzymatic and non-enzymatic degradation. Furthermore, they are essentially transparent to visible and ultraviolet light, and they are relatively inexpensive. These Good's Buffers are widely used in cell culture and other biological applications. Since then, additional zwitterionic buffers (AMPSO, CAPSO, DIPSO, HEPPSO, MOPSO, and POPSO) have been developed. These compounds offer even further improvements in water solubility, high chemical stability, and compatibility in a number of biological systems (Ferguson et al., 1980).

Characteristics of Good's Buffers:

- pKa value between 6 and 10
- high solubility
- non toxicity
- minimal changes due to temperature and concentration
- limited effects due to ionic or salt composition of the solution
- limited interaction with mineral cations, and limited permeability of biological membranes.
- limited effect on biochemical reactions
- very low absorbance between 240 nm and 700 nm
- enzymatic and hydrolytic stability

Buffer choice

To choose a buffering agent, the pKa value (pH at which the acid and the base forms are equimolar, hence giving a neutral total charge) should be near the pH range in which the biological reaction should be carried. Secondly, the compatibility of the buffer with the biological system, if already documented, should be considered.

Products specifications

(by alphabetic order)

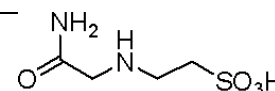
ACES, High purity grade

ACES is used to buffer at pH 6.1-7.5 (pKa:6.88)
N-(2-Acetamido)-2-aminoethanesulfonic acid; CAS:[7365-82-4], MW:182.2 (Z)
Soluble at 0.1M in water at 20°C

Abs.@280nm (5%, Water) 0.02
pKa @25C 6.58 - 6.98

pH (1%, Water) @25C 3.6 - 4.4
Purity (%) 99.0 Water (Karl Fisher) (%) 1.0

N1234A, 100g
N1234B, 500g



ACES K salt

ADA

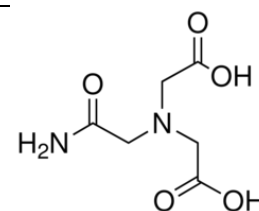
ADA is useful to buffer at pH 6.0-7.2 (pKa:6.65). ?

CAS:[26239-55-4], N-(2-Acetamido)iminodiacetic acid, N-(Carbamoylmethyl)iminodiacetic acid
MW: 190.16 (Z)
Soluble at 0.5M in 1M NaOH at 20°C

Heavy Metals (ppm) < 10 Loss on Drying (%) 1.0
pKa (@ 20 Deg C) 6.10 - 7.10 Purity (%) 99.0
Residue after Ignition (%) 0.1 Solubility (10%, 1N NaOH) (P/F)

AH085 - Inquire

N1339A, 25g
N1339B, 100g

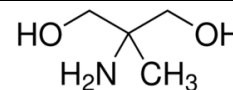


AMPD (2-amino-2-methyl-1,3-propanediol)

AMPD is a useful buffer at pH 7.8-9.7, in a SDS-gradient gel electrophoresis system for polypeptide of 1500 to 100000 Da, as a spacer in isotachopheresis of proteins, and as a buffer for the determination of alkaline phosphatase activity.

CAS:[115-69-5], EC:[204-100-7];2-amino-2-methyl-1,3-propanediol); MW:105.15(Z)
Purity >99%

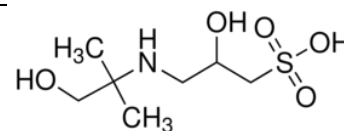
00188A, 25g
00188B, 100g



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AMPSO

AMPSO buffers in the pH 8.3-9.7 range (pKa: 9.0 at 25°C).



AMPSO free acid

N-(1,1-Dimethyl-2-hydroxyethyl)-3-amino-2-hydroxypropanesulfonic acid
CAS:[269-991-7]; EC:[269-991-7]; MW: 227.28 (Z)

AMPSO, sodium salt

N-(1,1-Dimethyl-2-hydroxyethyl)-3-amino-2-hydroxypropanesulfonic acid Na salt
CAS:[102029-60-7]; EC:[]; MW: 249.3 (Z)

Abs.@260nm (2.5%, Water) 0.06

Identification (IR) (P/F): PASS

Solubility (10%, Water): PASS

Abs.@280nm (2.5%, Water) 0.05

Moisture (KF): 4% Purity: 96%

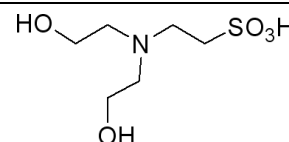
61281A - Inquire

60653A, 25g

60653B, 100g

BES

BES is used to buffer at pH 6.4-7.8 (pKa:7.1)



BES, Na salt

N,N-Bis(2-hydroxyethyl)-2-aminoethanesulfonic acid sodium salt
CAS:[66992-27-6]; EC:[-]; MW: 235.23; Xi
Soluble at 1M at 20°C in water

Heavy Metals (as Pb): <5ppm

Purity (anhydrous): >99%

Loss on Drying: <1.0%

Solubility (33%, w/v solution): PASS

61864A, 25g

61864B, 100g

BES, free acid

CAS:[10191-18-1]; EC:[]; MW: 213.25 (Z)

BA785, Inquire

Bicine, high purity grade

Bicine is a low temperature electrophoresis buffer; buffer of stable substrate of serum guanase. It is used to buffer at pH 5.8-7.2 (Pka: 8.35).

CAS:[150-25-6], N,N-Bis(2-hydroxyethyl)glycine], Bis(2-hydroxyethyl)amino-tris(hydroxymethyl) methane; MW:163.17 (Z) Xi
Soluble at 1M in water at 20°C

Moisture (Karl Fischer) (%) 1.0

O.D.@280nm (0.1M, Water) 0.05

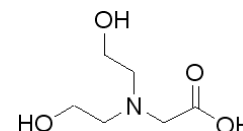
Solubility (20%, Water) (P/F)

O.D.@260nm (0.1M, Water) 0.05

pH (1%, Water) @25C 4.2 - 5.5 Purity (%) 99.0

T31622, 100g

T31623, 1Kg



BisTris, Ultrapure

Bis-(2-Hydroxyethyl)amino-tris(Hydroxymethyl)Methane
CAS: [6976-37-0]; MW: 209.2 (Z) GSH07
Ultrapure grade (>99.0%; no DNase, Protease)

DNase (P/F): NONE

Melting Point: 102 - 106°C

pH (1.0%, Water) @25C: 8.8 - 9.6

Protease (P/F): NONE

RNase (P/F): NONE

Identification (IR) (P/F): PASS

Moisture (KF): 1.0%

pKa @25C: 6.45 - 6.65

Purity (Titration): 99.0%

Solubility (1.0%, Water) (P/F): PASS

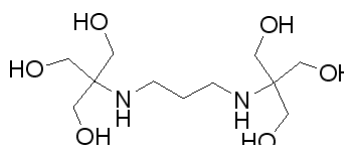
36832A, 100g

36832B, 250g

BisTris, Ultrapure

BisTris propane

1,3-Bis[tris(hydroxymethyl)methylamino]propane
CAS:[64431-96-5]; EC:[264-899-3]; MW: 282.33 (Z)



24721A, 25g

24721B, 100g

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CABS

CABS has a useful range of 9.7-11.1 (-pHa: 10.5 at 25°C)

4-(Cyclohexylamino)-1-butanesulfonic acid
CAS:[161308-34-5]; MW: 235.35

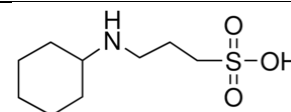
1F6870, inquire

CAPS

CAPS has a useful range of 9.7-11.1 (-pHa: 10.5 at 25°C)

N-cyclohexyl-3-aminopropanesulfonic acid
CAS:[1135-40-6]; EC:[214-492-1]; MW: 221.32

06199B, 500g



Melting point: >300 °C(lit.) Purity : >99% 2.1 g/10 ml water

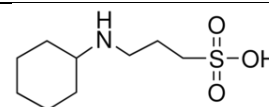
CAPSO

CAPSO has a useful range of 8.9-10.3 (pKa: 9.6 at 25°C)

N-cyclohexyl-2-hydroxy-3-aminopropanesulfonic acid; 3-(cyclohexylamino)-2-hydroxy-1-propanesulphonic; CAS:[73463-39-5]; MW: 237.32 (Z)
Purity > 99%; 2.1 g/10 ml water

62519A, 25g

62519B, 100g



CAPSO Na salt

3-(Cyclohexylamino)-2-hydroxy-1-propanesulfonic acid sodium salt
CAS:[102601-34-3]; MW: 259.30 (Z)

625061, 25g - inquire

CHES

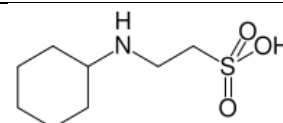
CHES has a useful range of 8.6–10 (pKa: 9.3).

N-Cyclohexyl-2-aminoethanesulfonic acid; N-Cyclohexyltaurine;
CAS:[103-47-9]; EC:[203-115-6]; M:207.28 (Z)

Purity>99%; Soluble 10% in water

21640A, 100g

21640B, 500g



pKa @25C: 9.3 - 9.7 (3 & 7.5 & 9.55) Purity: 99.0% Solubility (10%, Water): PASS
GSH07

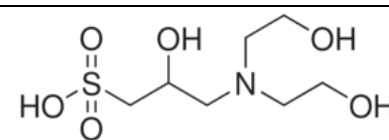
DIPSO

DIPSO is used to buffer at pH 7.0-8.2 (pKa: 4.0-5.5 (20°C, 0.1 M in H₂O))

DIPSO free acid

N,N-Bis(2-hydroxyethyl)-3-amino-2-hydroxypropanesulfonic acid
CAS:[68399-80-4]; EC:[269-992-2]; MW:261.3 (Z)
>98% pure; Soluble at 0.1M in wter at 20°C

21846B, 100g



Heavy Metals (as Pb): <0.0005% Melting Point: 189 – 192°C
Purity: 98% Solubility (25%, Water): PASS
Water (KF): <7%

DIPSO sodium salt

64058 – inquire

EPPS: see HEPPS

Gly-Gly

Gly-Gly is used to buffer at pH 7.5-8.9 (pKa:8.30)

Diglycine; Glycyl-glycine
CAS:[556-50-3]; EC:[2091278]; MW: 132.12 (Z)
Soluble at 1M in water at 20°C

01829A, 100g

01829B, 1Kg

HEBPS

HEBPS is an homolog of HEPES and EPPS with higher pKa (pKa: 8.30), used to buffer at pH 7.6-9.0

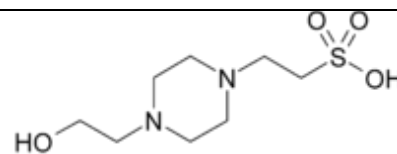
N-(2-Hydroxyethyl)piperazine-N'-(4-butanesulfonic acid)
CAS:[161308-36-7]; ; MW: 266.36 (Z)

S51752, 100g inquire

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HEPES

HEPES is an organic chemical buffering agent that is widely used to maintain physiological pH (range pH 6.8-8.2; pKa at 20°C : 7.45-7.65), i.e. in cell culture. HEPES is recommended for the protection of frozen solutions of enzymes from freezing-induced pH changes. Fears that HEPES may serve as a nutrient source for aerobic bacteria have been shown to be unfounded.



4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid ; 2-morpholinoethanesulfonic acid; 2-(4-morpholino)ethanesulphonic acid; 2-(N-morpholino)ethanesulfonic acid; morpholine-4-ethanesulfonic acid hydrate. CAS:7365-45-9; MW:238.30 (Z)

Mp: >234-238°C; Soluble at 40 g/100 ml (20°C)

Xi

HEPES free acid, Ultrapure

CAS:[7365-45-9]; MW: 238.30 (Z)

Purity > 99%; 40 g/100 ml (20°C)

Xi

Purity (dry basis): ≥99%

Iron: <0.0005%

Residue on ignition:

Rnase activity: Not detected

Heavy Metals (as Pb): <0.0005%

Loss on drying: <0.2%

DNase activity: Not detected

Protease activity: Not detected

UP061940, 250g

061941, inquire other sizes

See [FT-061940\(Hepes\)](#) for more information.

Also available as 1M solution. See [FT-N1466A\(Hepes_1M soln\)](#)

HEPES Sodium salt, Ultrapure

CAS [75277-39-3]; MW: 260.28 (Z)

Purity (dry basis): ≥99%

Iron: <0.0005%

Residue on ignition:

Rnase activity: Not detected

Heavy Metals (as Pb): <0.0001

Loss on drying: 3%

DNase activity: Not detected

Protease activity: Not detected

34941A, 100g

See [FT-061940\(Hepes\)](#) for more information.

HEPPS

HEPPS or EPPS is used as a buffering agent at pH 7.3-8.7 (pKa: 8.00/piperazine ring); i.e. in biology and biochemistry.

3-[4-(2-Hydroxyethyl)-1-piperazinyl]propanesulfonic acid hydrate; 4-(2-

Hydroxyethyl)piperazine-1-(2-hydroxypropanesulfonic acid) Hydrate

CAS [16052-06-5]; EC [240-198-8]; MW:268.33 (252.3/anh.) (z)

>99% pure; Soluble at 1M in water at 20°C

Purity > 99%

Melting Point: 236 – 239°C

Purity: 99%

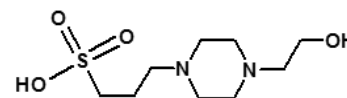
Heavy Metals (as Pb): <0.0005%

Moisture (KF): <1%

Solubility (1M, Water) : PASS

H315 / H319 / H335 ; P280 / P302+P352 / P304+P340 / P305+P351+P338

N1432A, 100g



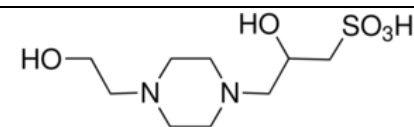
HEPPSO

HEPPSO (EPSO) is used to buffer at pH 7.1-8.5 (pKa: 7.5)

HEPPSO free acid, ultrapure grade

4-(2-Hydroxyethyl)piperazine-1-(2-hydroxypropanesulfonic acid) hydrate

CAS:[68399-78-0]; MW: 268.3(anhydrous)



28147A, 25g

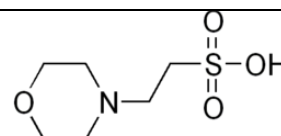
28147B, 100g

MES

MES is used as a Good's buffering agent in biology and biochemistry at pH 5.2-7.1 (pKa:6.16). Contains a morpholine ring and a an ethanesulfonic moiety. Melting point is approx. 300 degrees C.

2-(N-morpholino)ethanesulfonic acid, monohydrate; CAS:[4432-31-9]; MW: 195.24 (Z)

Purity > 99%; Soluble at 2.1 g/10 ml and up to 0.5M in water.



14035A, 25g

14035B, 100g

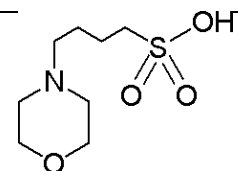
14035C, 500g

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MOBS

MOBS is an homolog of MES and MOPS with higher pKa/ It is used to buffer solution at pH6.9-8.3 (pKa:7.6)

BP3610, 25g

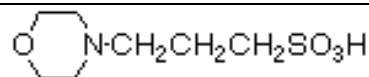


CAS:[117961-20-3]; 4-Morpholinebutanesulfonic acid; 3-(N-Morpholino)butanesulfonic acid hemisodium salt, MW: 223.29

Xi

MOPS

MOPS is an excellent buffer for many biological systems at near-neutral pH. It is used in biology and biochemistry as a buffering agent at pH 6.5-7.9; Contains a morpholine ring (pKa_(25°C):7.28) and a propanesulfonic moiety. Its structure is analog to MES.



It used widely for polyacrylamide gel electrophoresis. e.g. RNA electrophoresis in agarose with formaldehyde gels at 20 mM concentration. Usage above 20 mM in mammalian cell culture work is not recommended.

Synonyms : 3-(N-Morpholino)-propanesulfonic acid, 4-Morpholinepropanesulfonic acid
MOPS buffer is prepared by adding NaOH to the free acid solution. MOPS buffer is partly degraded on autoclaving in the presence of glucose and has negligible metal ion binding property.

MOPS, Ultrapure

CAS:[1132-61-2]; 3-(N-morpholino) Propane Sulfonic Acid, monohydrate; MW: 209.27
Purity > 99%; 2.1 g/10 ml water

062000, 100g

MOPS, Na salt, high purity

CAS:[71119-22-7,79803-73-9]; 4-Morpholinepropanesulfonic acid Sodium salt; MW: 231.25

N1343A, 25g
N1343B, 100g

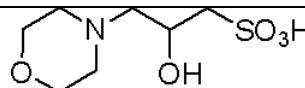
MOPS, hemiNa salt

4-Morpholinepropanesulfonic acid hemisodium salt;
CAS:[117961-20-3]; MW: 220.25

M13581, 100g

MOPSO

MOPSO is used to buffer at pH 6.2-7.6



MOPSO, Sodium salt, biotech grade

3-(N-Morpholino)-2-hydroxypropanesulfonic acid sodium salt, 3-Morpholino-2-hydroxypropanesulfonic acid sodium salt
CAS:[79803-73-9]; MW: 247.24

N1420A, 25g
N1420B, 100g

Abs.@260nm (2.4%, Water): < 0.04
Melting Point: 263 – 271°C
pH (1%, Water) @25C: 5.1 - 6.1
Solubility (2.4%, Water): PASS

Abs.@280nm (2.4%, Water): < 0.03
Moisture (KF): <1%
Purity: 97%

MOPSO, free acid

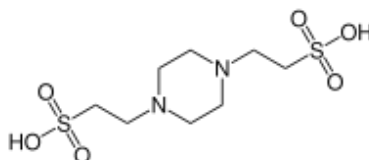
β-Hydroxy-4-morpholinepropanesulfonic acid, 3-Morpholino-2-hydroxypropanesulfonic acid
CAS:[68399-77-9]; EC Number 269-989-6; MW: 225.26 (Z)

281481, 100g

PIPES

PIPES is used to buffer at pH 6.1-7.5 (pKa:6.80)

Piperazine-1,4-bis(2-ethanesulfonic acid);
MW: 335.4 [243(anh.)]; Xi
Purity > 99%; 3 g/10 ml 1M NaOH



UP061980, 100g
UP061981, 250g

FT-062000

POPSO

POPSO is used to buffer at pH 7.2-8.5 (pKa: 7.8)

POPSO, free acid, biotech grade

Piperazine-1,4-bis(2-hydroxypropanesulfonic acid) dihydrate;
CAS:[68189-43-5]; MW: 362.42(anhydrous)-398.45 (Z)

28149A, 25g
28149B, 100g

Heavy Metals (as Pb) <0.0005% Purity (Anhydrous) >99%
Solubility (25%, 1N NaOH): PASS Water (KF): <10(%)

POPSO, sodium salt, ultrapure grade

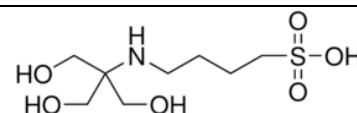
Piperazine-1,4-bis(2-hydroxypropanesulfonic acid) sodium salt;
CAS:[108321-07-9]; MW: 406.39 (Z) ; Soluble at 1M in in NaON

69223A, 25g
69223B, 100g

Heavy Metals (as Pb): 0.0005 % Moisture (KF): <5%
Purity: 97% Solubility (10%, Water): PASS

TABS

TABS is used to buffer at pH 8.2-9.6 (pKa:8.9). Homolog of TES and TAPS with higher pKa and similar utility in biological systems.



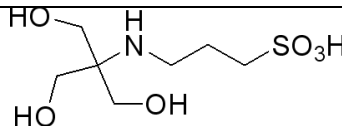
TABS, Na salt, Biotech grade

N-tris(Hydroxymethyl)methyl-4-aminobutanesulfonic acid
CAS:[54960-65-5]; MW: 257.30 (Z)

1F688, inquire

TAPS

TAPS is used to buffer at pH 7.7-9.1 (pKa:8.49)



TAPS, Na salt, Biotech grade

[(2-Hydroxy-1,1-bis(hydroxymethyl)ethyl)amino]-1-propanesulfonic acid
CAS:[91000-53-2]; MW: 243.28 (Z)
Soluble 1M in water at 20°C

705011, 100g

DNase: NONE Heavy Metals <0.0005%
Identification : PASS pH (5%, Water) @25C: 3.5 - 6.5
Protease (P/F) NONE Purity: >99%
RNase: NONE Solubility (5%, Water): PASS
Water (KF): 1.0%

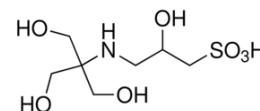
TAPS, free acid, high purity

[(2-Hydroxy-1,1-bis(hydroxymethyl)ethyl)amino]-1-propanesulfonic acid; N-Tris(hydroxymethyl)methyl-3-aminopropanesulfonic acid
CAS:[29915-38-6]; MW: 243.28 (Z)

T3169 inquire

TAPSO

TAPSO is used to buffer at pH 7.0-8.2 (pKa:7.6)



TAPSO, free acid

2-Hydroxy-3-[tris(hydroxymethyl)methylamino]-1-propanesulfonic acid;
CAS:[68399-81-5]; MW:259.28 (Z); Xi

28150A, 25g
28150B, 100g

Assay: ≥99% (titration)

TAPSO, sodium salt

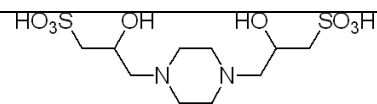
CAS:[68399-81-5]; MW:281.26 (Z)

705291, inquire

FT-062000

Tricine

Tricine is used to buffer at pH 7.4-8.8 (pKa:8.16). It is a buffer component for separation of low molecular weight peptides.



Tricine

Piperazine-N,N'-Bis[2-Hydroxypropanesulfonic Acid) Dihydrate;
CAS:[68189-43-5]; MW:380.44 (Z)

706111, 100g

706112, 500g

Related products

[Buffering agents and Buffer solutions](#) ^[BC002b]